UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM Fri. Feb. 1, 1929.

NOT FOR PUBLICATION

Farm Engineering, Meeting No. 6: Overhauling Farm Machinery.

SPEAKING TIME: 9 minutes.

ANNOUNCEMENT: The Farm Forum will be in order! --- Our Farm Engineer is back with us today. He has promised to go over the farm machinery with us --- your machinery and my machinery. Maybe he is going to jack us up about some of it.-------
Go ahead, Mr. Engineer ----------

******

How many of you men here inspected your field machinery at the end of the season's work? ---Hold up your hands------ Ah, that's good! ----- Quite a few of you.

Now then, those of you who inspected your machinery carefully --- how many of you listed the repairs and adjustments needed? ----- What? ------ Ah, there are a couple back on the back row did. Well, men, I hope next season you won't feel so lonesome.

As you two men evidently know, and all the others will find, when they do it, such a list is very valuable; when you buy repair-parts and have the time for getting the machine in condition for next year's work.

This matter of taking care of machinery should be gone about in a systematic way. Unless it is done systematically, it is likely to be neglected. And it doesn't do to neglect machinery. Farm machinery represents a considerable investment on most farms. It is good business to keep each machine in good working order.

In some sections of this country, a plow is in actual use not more than 120 hours each year. Mowers, and hay rakes, and grain binders are often used only from 20 to 40 hours during a year's time. And, as a general rule, farm machinery is used only during the rush season when there is little or no time for overhauling and repairing. And you all know how hard it is some time to get repair parts. That may also cause delay when you can least afford delay.

Yes, sir, the proper time for repairing and overhauling such equipment is before the busy season begins. If you put off doing it until you need the equipment, you may lose considerable time in the

R-

field. ---------(As if interrupted) Ah, we have a question over here on the right ---Well? -----(Pause) "What should you do?"

Of course, that depends a good deal on the machine. Let's take a plow, for example.

When you are inspecting a plow for overhauling and repairing, you should pay special attention to the bottoms. No other part of the plow is quite so important in its effect on good plowing as the share. You should keep the share reasonably sharp. Not only that, but when you sharpen it, you should see that it is properly shaped. And don't let it rust.

When a plow is not in use, the share and mouldboard should be coated with heavy oil or grease so rust won't form on them.

On wheel plows, you should examine the wheel boxes and clean them with kerosene before you put on a new supply of grease. Check up on the adjustment of the rear furrow wheel. Go over the entire machine and tighten all loose bolts and replace any that may be badly worn -------- ----(As if interrupted) Beg pardon, did you have a question?------- "About that rear furrow wheel?" ----- All right, what about it? -------- What? --- What do I mean by checking up on the adjustment?

Well, you know, the furrow wheel should be set in such a position that it will run in the corner of the furrow and carry the land side pressure as well as its share of the weight of the plow. The wheels on a plow are intended to carry the weight of the plow, the operator, and the weight of the soil being turned. -------(As if interrupted) Yes? ---- "The cultivator?"

Well, when overhauling a cultivator, you should examine the shovels thoroughly. And when you have the cultivator shovels sharpened, it is a good idea to furnish the blacksmith with a new shovel of the same kind and make. That will give him a pattern so he can keep to the same shape.

And, of course, when the cultivator is not in use, the shovels should be coated with heavy oil or grease to prevent rusting. Probably the next most important thing to look after is the brake pins or spring trip, as the case may be. If any of the brake pins are badly worn, or if the tension on all the spring trips is not the same, the shovels won't keep their proper pitch. Check over the entire machine, and tighten loose bolts and connections. And on riding cultivators, clean the wheel boxes with kerosene before putting on the fresh grease.

I take it, that all of you clean your planters and drills at the end of the planting season. Seed left in the seed boxes or seed sprouts hold moisture. They cause metal parts to rust and wood parts to rot. when fertilizer attachements are used with planters and drills, it is especially important to keep the machines clean. Any fertilizer left in the hopper and in the discharge mechanism will often stick to the wood or metal parts in the form of a hard cake.

Or let's overhaul the mower. When you do that, you should set the tongue or tongue truck in its working position and align the cutter bar. When the cutter bar is in proper alignment, the outer end of the sickle should be a little bit ahead of a line from the pitman bearing through the center of the knife head bearing. Inspect the sickle for loose or badly worn sections and check up on the alignment of the guards. At the end of each pitman stroke the section should center under the guards.

Also inspect the wearing plates and see that the clips hold the sickle down against the ledger plates. Take up lost motion in the pitman rod and knife head bearing and in the pitman and crank arm bearing. Lost motion in gears and bearings can be more easily located, if you jack up the axle on one side, throw the mower in gear and then turn the ground wheel by hand.

The cutter bars on binders, headers and combined harvester-threshers need about the same attention a mower needs. Such machines should also be cleaned thoroughly before they are stored for the winter. Of course, I take it that you all take off all belts and canvasses and hang them in a dry place where the rats and such like can not get to them.

The main thing to keep in mind in overhauling however is to protect all equipment from the weather and get the machinery in working order before the busy season begins.

****

ANNOUNCEMENT: Next week at this time we will talk about the value of analyzing prices. We had agreed to do that today, but our Farm Engineer friend dropped in on us. Now, Monday our livestock members are going to have a man here to tell us something about markets. And, as usual on Tuesday, we'll have a poultry talk. This time it will be about how to operate an incubator.

##

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

FARM FORUM TOPICS

Week of February 4 - 8, 1929.

REGION 1.

February 4 - Source of New York's Meat Supply

February 5 - How to Operate the Incubator

February 6 - Breeding Better Corn Varieties

February 7 - Selecting Dairy Farming as a Business

February 8 - Price Analysis, Its Value to the Producer

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

FARM FORUM TOPICS

Week of February 4 - 8, 1929

REGION 2.

February 4 - Factors Affecting the Seasonal Supply of Hogs

February 5 - How to Operate the Incubator

February 6 - Breeding Better Corn Varieties

February 7 - Selecting Dairy Farming as a Business

February 8 - Price Analysis, Its Value to the Producer

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

FARM FORUM TOPICS

Week of February 4 - 8, 1929

REGION 3

February 4 - Outlets for Livestock

February 5 - How to operate the Incubator

February 6 - Breeding Better Corn Varieties

February 7 - Selecting Dairy Farming as A Business

February 8 - Price Analysis, Its Value to the Producer

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

FARM FORUM TOPICS

Week of February 4 - 8, 1929

REGIONS 4 & 5

February 4 - Factors Affecting the Price of Beef Cattle

February 5 - How to Operate the Incubator.

February 6 - Crops for Alkali Land

February 7 - Selecting Dairy Farming as a Business

February 8 - Price Analysis, Its Value to the Producer

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM (Region No. 1) Monday, February 4, 1929.

NOT FOR PUBLICATION

Livestock Meeting No. 19: Source of New York's Meat.

SPEAKING TIME: 8 Minutes.

ANNOUNCEMENT: The Farm Forum will be in order! --- We have a meat market expert here with us today. He is from the U.S. Department of Agriculture, and he is going to tell this meeting about one of the big influences in determining livestock prices all over this country --- Our meeting is ready for meaty talk ---

****

Picture in your mind's eye, a drove of 2700 head of cattle. Then as that big drove passes you, picture 4800 calves following behind the older cattle. Behind the calves picture 10,000 lambs, and behind the lambs, picture 10,000 hogs. Quite a parade, isn't it?

That gives you some idea of what it takes to feed the one city of New York and its surroundings. That amount of livestock is not one year's supply, or one month's supply, or one week's supply; it represents one day's supply. Every day in the year it takes about that number of cattle, and lambs, and hogs, to supply Greater New York City.

In fact, New York has such a big meat consuming capacity it has a tremendous influence in determining livestock prices throughout the country. Regardless of where your stock is sold, the New York market has an effect on the prices you get.

Consider for a moment, where New York gets all its meat. Some of it even comes from abroad; chiefly from Canada and New Zealand. However, nearly 98 per cent of New York's meat originates in this country. -----

To move the tremendous amount of meat used in New York City in a year's time would take more than 54,000 standard refrigerator cars. If you put all those cars into a single train, that train would extend on an air line track almost the entire distance from New York City to Cleveland, Ohio.

But about half of the beef, veal, lamb, mutton, and pork, used in New York comes from animals shipped alive to New York. The balance is shipped as meat from other shipping points.

Naturally, an important source of New York's meat supply is the livestock markets and slaughtering centers in the vicinity of that city.

However, those centers alone could not supply it all. For that reason, New York must get its meat from many markets --- some near, others far away.

The chief meat slaughtering, packing and shipping points, outside of New York, are Chicago, Kansas City, Omaha, East St. Louis, St. Paul, Fort Worth, Oklahoma City, Buffalo, Cleveland, Indianapolis, Cincinnati, Denver, Sioux City, Milwaukee, Baltimore, Philadelphia, Wichita, Jersey City, Newark and Brooklyn.

The livestock disposed of in the packing centers near stockyards is slaughtered as soon as possible after being bought. The packing centers are equipped with big coolers and the meat is moved into them while still warm.

After being properly cooled, the meat is distributed to consuming centers throughout the country largely in refrigerated cars. At its destination, the meat is handled through refrigerated coolers where retailers and others gather and where orders are filled. All the big packing houses also supply their customers by direct delivery in refrigerated freight cars, trucks and the like.

Since most of our meat and livestock passes through stockyards and packing houses where its identity is lost there is no way, except in a few cases, to tell definitely where specific lots of meat originated. We do know, in a general way, however, where New York City gets its meat.

Of course, we know that very little of New York's meat comes from within the confines of Metropolitan New York. Also, a very small part of the total New York meat supply comes from neighboring states. So, you see, New York and vicinity depend upon the great producing sections of the country for their meat.

Take beef cattle. Beef cattle come largely from the North and South Central States. Many of them originate, however, in the western range country; which is semi-arid and devoted largely to producing grazing cattle.

The dairy beef supply comes from various sections, but is centered throughout New England, around the Great Lakes, and through Wisconsin and Northeastern Iowa.

Hog production is widely scattered, but centers in Iowa, Eastern Nebraska, Northwestern Missouri, and Central Ohio, Indiana, and Illinois. The North Central States are contributing much more liberally than they used to do. But all sections east of the Great Plains produce a lot of hogs.

Sheep and lambs, too, are produced in most states in fair numbers. Early lambs come to New York in good sized quantities from California and Northwestern Nevada. The range states send liberal supplies. The Corn Belt furnishes many grain-fed lambs. Virginia, West Virginia, Kentucky, and New York State contribute a good sized quota of grass-fat kinds.

So you see the ten million people in and around New York City, consuming as they do over one and one third billion pounds of meat a year, are an important factor in making prices not only of meat but also of livestock in distant parts of the country. Even though the livestock farmer may sell in a market thousands of miles away, the price he gets may be considerably influenced by the New York demand.

****

ANNOUNCEMENT: Tomorrow we will have an expert here to tell us how to operate an incubator to get the best results. Wednesday, we'll have a talk on corn breeding. Thursday is our regular dairy day, and Friday, we'll take up this question of prices again. If there is no other business to come before the meeting, the Farm Forum stands adjourned until this time tomorrow.

######

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM: Region 2 Monday, February 4, 1929.

NOT FOR PUBLICATION

Livestock Meeting No. 19b: The Seasonal Supply of Hogs

ANNOUNCEMENT: Who's the best hog-caller in the house!--- I want him to call this Farm Forum to order!--- Now, that's better --- We'll start this meeting with a talk from a livestock market man from the U. S. Department of Agriculture. He is going to give us a talk on hog prices and hog marketing.---

****

More particularly, I want to call your attention to the variations in the market supply of hogs. Or rather, the seasonal variations in hog marketings.

When hog growers pay more attention to the seasonal ups-and-downs in hog supplies in planning their selling, we may get more even marketing all through the year.

As it is, the hog crop is largely a twice-a-year proposition. There is a spring crop and a fall crop. The spring pig crop is born largely during March, April, and May. The fall crop comes during August, September, and October. Of course, you know that. You also know that condition is largely the result of a general adjustment between climate and the general scheme of farming in the Corn Belt.

But let's look at the market end. Of course, many pigs go to market when they are six months old, or less. Ordinarily, however, it takes 8 to 9 months for most hogs to be ready for market. That puts the spring pig crop, which is born largely in April, on the market during the following winter, with the biggest proportion during December and January. The fall pig crop takes about the same length of time to finish, which puts the crop on the market during the spring and early summer. The biggest proportion usually comes to market during May and June.

Naturally, as a result of that bunching of the supply, there are periods of scarcity about midway between the heavy marketings from the fall and spring crops.

In the spring, that period of scarcity comes in April, and the period of greatest scarcity for the year comes in September. From September through March the marketings are largely made up from the spring crop. From April through August the marketings are mostly from the fall pig crop.

Along with the marketing of fall pigs are included a fairly big proportion of sows. Those sows come largely from Iowa, and Nebraska, and the states to the north where they have only one pig crop, the spring crop because the climate is too severe for general pig production. Farmers there use mostly gilts bred to farrow in the late spring when conditions are favorable. After weaning their pigs, they are fattened and sent to market in the summer. And so they increase the proportion of sows in the market supply at that time.

In the more southern sections of the Corn Belt, it is common practice to produce both a spring and fall crop. In this section, many farmers breed for early farrowing in order that hogs may be marketed at the season when market supplies are scarce, especially around April and September, when prices are high as a result of a scarcity of lightweight hogs suitable for the eastern pork trade.

But in spite of this tendency of hog producers to even up the market supply that way, the proportion of the supply that comes during the regular winter packing season keeps on increasing. At present over three-fourths of the yearly marketings come during the seven months, September to March -----(As if interrupted) What say? --- "Why's that?"

Well, most of the increase comes in the last four months, December to March. So you see, it is fairly clear it is largely the result of the further expansion of hog-production in the one-crop region; in the Northwestern Corn Belt.

True, a big proportion of the hog's carcass is cured and may be stored for months. But this large proportion of the year's supply of hogs coming in the winter puts the winter hog market more on a speculative basis than it would be otherwise. It adds risks and costs. In the long run, those risks and costs must be paid by the man who raises hogs.

Those large marketings in the winter go along with low prices. When the number of hogs reaching market decreases, the spring prices tend to go up. Bigger supplies in May and June bring prices down. Then, again, as the supply of hogs falls off in later summer and fall, prices go up again, usually reaching their highest in September.

As marketings from the spring pig crop increase, prices tend to drop again. In other words, when the supply of hogs is big the price is low. When the supply of hogs is small, the price is high. So you see, it is the time the individual hog grower puts his hogs on the market which largely determines the price, and to a great extent, the profit in hog production. ------ (As if interrupted) ----- What's that? --- "Would I advise everybody to market when prices are highest?"

No, that would be like jumping out of the skillet into the fire. And, of course, there are physical limitations to when farmers can produce and market. Production costs have to also be taken into consideration, before anyone is safe in departing from well-tried methods and practices.

However, I will say this----- and I want you to think it over--- there is a possibility of many hog raisers shifting the time of breeding and marketing so as to take advantage of the seasonal high prices.

******

ANNOUNCEMENT: This time next week we will talk about tone-litter contests. But there are several meetings this week yet. Tomorrow we are going to run the incubator for our poultry friends. Wednesday, we will consider breeding better corn varieties. Thursday will be out regular dairy meeting and Friday we will go into this matter of prices from a little different angle.

#####

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

THE FARM FORUM (Region 3) Monday, February 4, 1929.

Livestock Meeting No. 19c: Market News Service

Speaking Time - 9 minutes.

ANNOUNCEMENT: The Farm Forum will be in order! --- A livestock market news expert is going to tell us about the Market News Service of the U.S. Department of Agriculture. Some of our members get those market news reports every day. Some of us find they mean real money to us. But we take them as a matter of course. Maybe we don't realize what that Market News Service amounts to ---- anyway, this man is going to tell us about it ---------

****

Livestock marketing has changed. A few years back, livestock men shipped their livestock to one market, regardless of conditions. The habit has practically disappeared.

Trainloads of lambs, alive and dressed, now move, in season, from California to the big Mid-western and Eastern market centers. Trainloads of hogs consigned by producers and shippers in Iowa, and South Dakota, and other Mid-Western states, show up almost every day at market centers on or near the Atlantic seaboard. Other trainloads move regularly from Nebraska, Western Kansas and the Texas Panhandle to markets on the Pacific Coast.

In other words, these days a livestock producer or feeder or shipper has to have a clear understanding of market conditions and prices on a number of markets instead of just one. Local conditions on supply and demand on one market may be out of line with conditions at other markets. To take advantage of conditions, the livestock man has to know his markets.

The Market News Service now maintains reporting staffs at 24 of the country's biggest livestock markets, at the wholesale meat markets at the four biggest consuming centers, and at our largest wool market.

Those trained specialists gather the information which goes into the market reports.

However, to make that information of value to farmers and shippers, farmers and shippers must have it promptly. For that reason, the Department of Agriculture has built the most complete and comprehensive system for prompt, nation-wide distribution of market news ever used.

The Department maintains an 8,000 mile leased wire system. These wires span the country from coast to coast and from San Antonio, Texas, and Montgomery, Alabama, to St. Paul. By means of those leased wires, nearly all the markets reported, are connected with each other and with the headquarters office in Washington.

The information gathered by each market by the expert reporters is promptly wired to the other livestock centers. From each of those centers brief flashes showing the supply and market situation at the moment are sent out to farmers, feeders, and producers. Also from those centers are sent out complete summaries of conditions and prices for the day. Those reports show the closing market tones. They give advance estimates of the next day's supply of livestock which will be on the market. They contain valuable hints as to how the market is likely to perform tomorrow.

In order that those reports may get to you who can use them, daily, and weekly, and periodical summaries of the markets reported are run off on fast duplicating machines and promptly mailed to farmers and dealers. Not only that, but the cooperation of the newspapers and news services is used. The country's three biggest news press associations distribute the reports over their network of day and night wires to the offices of hundreds of newspapers, while upwards of 70 of the leading radio broadcasting stations of the country feature Federal livestock market news in their daily programs. Many of those stations broadcast the information as it develops, several times a day. Some of them broadcast by remote control direct from the Department's offices at the big central markets.

Special reports are also prepared for news and trade publications and financial institutions. And the information is further spread by private wire, ticker services, the telephone, and bulletin boards.

In many cases, the livestock producer on his farm learns of market changes practically as soon as they happen. Oftentimes, he can change his shipping program in time to take advantage of the market.

But before the Government started this Market News Service, it wouldn't have done much good to get reports from all the markets. There wasn't any way to make intelligent comparisons between prices at different markets. They used different terms and grade names at different markets. In many instances, the same grade terms were used, but they didn't mean the same thing. In fact, it was about like Bible times when the workers on the Tower of Bebel couldn't make any more progress because of their mixed languages.

In order to give shippers and producers, price quotations which would do them some good, the Department got together with trade interests and worked out a schedule of standardized class and grade names for livestock, by which a grade or class of livestock on one market was given the same grade name as the similar grade or class has on every other market. With the same terms used for the same thing on all markets, prices quoted on any particular grade or class can be accurately compared with prices for the same grade or class on other markets. ----- (As if interrupted) -- Just a moment ---- What was that? ----- I didn't quite get that --- (Pause)

Did you all hear that? --- This gentleman calls our attention to the fact that it was not so long ago that we got rural mail delivery. At that time, we couldn't even get a late paper with the local market news in it. ---- (As if interrupted) ---- Yes? --- Oh, yes --- that's right, too ------

Yes, he says if you lived a few miles from town, and if the weather was cold and the roads bad, it might be a week or two before you got even a weekly market letter from the big livestock centers. -- (As if interrupted) ---- What? ----"Too late?"

He says in the old days, market information often came too late. --- That's true, too. It often came, after you had already sold your hogs, or cattle, or sheep way below their value. Or, sometimes you overstayed a good market. You marketed your holdings at the wrong time. Where there was a choice of markets, you often picked the wrong one; because you didn't know any better.

All that is true. The rural mail service proved a big help. Then country telephone lines helped still more.

Nowdays, however, with our standard grades and market news service, it is now possible for every farmer to get by radio at various times of the day authentic information as to market conditions. And, not only the market conditions at one market but the conditions at many markets. Use of that market news service means the saving of many a dollar.

****

ANNOUNCEMENT: Tomorrow our poultry members want to talk about the incubator. Wednesday our subject for discussion will be corn breeding. Thursday is our dairy day and Friday we will talk some more about price information.

###

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

THE FARM FORUM (Region 4 and 5) Monday, February 4, 1929.

Livestock Meeting No. 19: What Makes Cattle Prices.

Speaking Time: 8 minutes.

ANNOUNCEMENT: Livestock farmers come to order! --- The question before our Farm Forum is "What Makes Cattle Prices? --- Before we open the question for general discussion, however, I'll like to hear from our friend, the U. S. Department of Agriculture's livestock market man on that subject --------

****

This question of cattle prices reminds me of old Uncle Sid Hewlett. I heard Uncle Sid say the other day he couldn't see why there isn't a fortune in cattle at present prices.

Back in the nineties, he claims, he made good money on 3-cent cattle.

And maybe he did. The dollar 30 years ago was worth twice what it is today. That's the trouble with comparing prices of now and a generation ago; you have to allow for changes in the buying value of money. If a dollar shrinks in value, it naturally takes more dollars to buy cattle. But it takes more dollars to buy other things too.

You all remember the high cattle prices in 1918 and 1919. Yet at that time, few of us, including cattlemen, appreciated the actual position of the livestock industry and the low value of the dollar. Those prices looked so high compared to what they'd been getting, cattlemen went in for heavy production and speculation in cattle. And ---- well you know what happened.

That tendency of cattle prices to go up or down with changes in the general price level has caused some of the biggest changes in prices.

In fact, you might say that there are two prices. There is the ordinary, everyday market price; the price that may fool you. Then there is the deflated price. That is, there is the market price corrected for changes in the general price level or changes in the buying power of money.

When you allow for those changes in the value of the dollar; when the market price has been corrected for those changes, you find that high prices come when there's low production. Low prices come when there's high production.

In other words, the level of cattle prices and the prosperity of the cattle industry are largely governed by the production and market supply of cattle. The more you produce the less you get.

When we go over the corrected cattle prices for a number of years, we find the up and down swings in cattle prices are pretty regular. The time between a period of low production and highest prices and the next period of low production is about 16 years. ---- (As if interrupted) What say? ----

"Where are we now?"

Why, we're about at the bottom now. That is, we have the smallest supplies in proportion to demand we've had ---- figure back 16 years --- 1913 isn't it --- That's right, another low point in the production swing and a high point in prices came in 1912.

That's the big thing to keep in mind; the supply is the chief thing in making range cattle prices. What usually happens is this. When production is low and marketings are scarce, as they have been recently, prices are high. Then cattlemen go in for bigger production. The trouble is too many are attracted by the prospects of big profits and herds are expanded too much. They are expanded to a point that makes prices ruinously low. That's what we got a few years back.

That's the main picture of the ups and downs of prices. Now, let's take the season to season or short-time variations of prices. The short-time variation in prices of grass cattle, for instance, is governed largely by the supply of range cattle, and also by the number and character of the supply of grain-fed cattle.

All cattle make beef but all beef is not of the same grade. Incidentally there is more or less competition between beef of the various grades. In other words, if there is a shortage of fed cattle, fat grass steers may be substituted. On the other hand, fat grass steers may be penalized if the fat cattle market should be over-supplied. At times, grass cattle may be substituted for different weights of fed cattle.

The demand for feeding cattle in the Corn Belt is the chief demand factor affecting prices of range cattle. If the demand for range cattle for feeding lags, cattle which would normally be stockers and feeders are forced into the packers' hands to produce beef. Again, at times, when there is a scarcity of feeder and stocker cattle, feeders may compete strongly with slaughterers and force prices of grass cattle high in comparison with prices for fat cattle. You had that sort of a situation last August and September, when there was a shortage of all cattle together with a strong demand for feeding cattle.

As a rule, the supply is the important thing, in making cattle prices. But there are several things on the demand side which either directly or indirectly affect beef cattle prices.

The buying power of beef eaters is one thing. Then there is the competition of other meats, especially pork. The growth of population in this country is fairly important in making a bigger demand. That has been steadily shoving up cattle prices in this country. Also the export demand for beef and live cattle has been a particularly important factor influencing cattle prices, especially before about 1908 and during the World War.

Then there's the hide. That, and other by-products, have an important bearing on prices of grass cattle. In the case of thin cows, the hide represents a larger part of the yield and value of the cow.

These short-time variations in market supplies and these different demands are important in deciding when and what kind of cattle to market.

And in all your production and marketing plans, it is well to keep in mind that, after allowing for changes in the value of the dollar, it is chiefly the supply that makes prices of beef cattle.

****

ANNOUNCEMENT: Remember, men, tomorrow we are going to run the incubator. Wednesday we'll talk about crops for alkali land, and Thursday will have a talk on selecting dairy farming as a business. We'll go into the question of prices in general at the Friday meeting.

****

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM Tuesday, February 5, 1929.

Poultry Meeting No. 19: How to operate the Incubator

ANNOUNCEMENT: Say, you poultrymen, settle down, please! ---- so we can start the Farm Forum meeting. We have an incubator man from the U. S. Department of Agriculture here. He will now address the Farm Forum on how to operate the incubator.

****

All right, men! Let's warm right up to the subject.

As we used to sing at meeting; "Keep your lamps trimmed and burning." That is, if you have one of those small, lamp incubators.

The lamps should be cleaned and filled and the wicks trimmed every day. It is a good idea to adjust the flame of a lamp a little while after it is lighted. You know, wicks have a tendency to work up and that makes a bigger flame.--------

Or maybe yours is run by a coal stove. Many of the bigger ones are. They are usually regulated by automatic heat regulators. Just the same, you should give one of that kind regular attention. You want an even temperature in the incubator. Of course, if you use electricity, you're lucky; that kind needs less attention than oil or coal heaters.

See to it, too, that you have the moisture conditions just right. Too much moisture may prevent the evaporation that is needed for the proper development of the chick. Too little moisture may cause the chicks to get dry and stick to the shell.

As a rule, you need some additional moisture. You can tell how much by the comparative growth of the air cell in the egg and the loss of weight of the eggs. Moisture gauges are of value in forced draft incubators, but they are not of much use in most types of small lamp machines. Moisture on the door of the incubator at hatching time is one of the best indications of good incubator conditions. You can supply the moisture by using a tray of water or moist sand in the machine. Or you can sprinkle or spray the eggs. Or you can wet down the incubator room. --------- (As if interrupted) What? ---- "The best temperature?"

Well, that depends on the kind of incubator you use ---- just follow the manufacturer's directions. I'd go strictly according to directions, at first, anyway. After you've had some experience in running your incubator, you may find it advisable to make some little changes in the temperature and moisture to adapt it to your special conditions or location.--------

But, you asked about the best temperature. With a hanging thermometer, where the bulb just clears the top of the eggs, the temperature should be 102 degrees the first week. The second week, the temperature should be 102½ to

103 degrees. The third week, it should be 103. At hatching time, you should keep the temperature at 103½ to 104. That's with a hanging thermometer. Now, with a thermometer the bulb of which rests directly on the eggs, the temperature readings will be a little different. With that type thermometer, the first week the temperature should be at 101½ to 102 degrees. The second week 102 to 103 degrees. And 103 degrees the third week. The forced-draft type of cabinet machines are operated at a lower temperature than that. They are usually operated at about 99 to 100 degrees.

And, as I said, keep the temperature even. Read the thermometers before you open the incubators, as it takes a while for the machines to come back to normal temperature after they are opened. And when you first put the eggs in the incubator, it will be several hours before the incubator temperature comes back to its normal point.

With the right temperature, the eggs should begin to pip on the evening of the nineteenth day. Hatching should be practically over by the morning of the twenty-first day. Hatching sooner or later than that shows that the temperature is not right. A temperature of even one degree above or below the proper heat all through the incubation period will affect the hatch. So, you see, it is important to have accurate thermometers. You can test the thermometers at the beginning of each season by comparing them with a clinical thermometer in water at a temperature of 103 degrees. ----(As if interrupted) Yes? ----- "How about turning the eggs?"

Oh, yes, you should turn the eggs from the second through the seventeenth day. Turn them at least twice a day. Or if your incubator is one of these big ones with automatic turning device, turn the eggs three or four times a day. Turning with that kind of a machine is a very simple matter anyway.

In small incubators, you do the turning by taking a few eggs out of each tray and shuffling them around by hand. Each time you turn the eggs, reverse the trays in the machine. But it is usually best to keep the incubator closed while the eggs are being turned ---------(As if interrupted) ---What's that? --- "Cooling?" ---

Why, most people have quit cooling eggs during incubation. It doesn't seem to be necessary; unless the eggs have been overheated or are developing too fast. You can tell when the unhatched chick is developing too fast, by the size of the air cell in the egg. If the air cell is too big, the eggs should be cooled once a day between the seventh and seventeenth day. Cool them until they feel a little cool to the face or eyelid.

It's a good idea to test the eggs during incubation. Take out the infertile eggs and those with dead germs in them. You can use the infertile eggs as a feed for young chicks ---- (As if interrupted) All right, what's your question? ---- "How do you test?"

I thought you knew. The eggs are usually tested on the seventh and on the fourteenth day. You do the testing, by holding the egg , big end up before an egg tester or candle. When held before the light, an infertile egg looks clear like a fresh egg. But a fertile egg, held before the light, about

the seventh day of incubation will show a little dark spot with lines or blood vessels running from it in every direction.

On the second test, on the fourteenth day, you take out the eggs with dead germs. You can easily tell them from those with live germs. The eggs with dead germs show only a partial development. They lack the clear, distinct outline to the air cell you see in the live eggs.

Of course, you should test the eggs before they are incubated, so you throw out all that show slight cracks, or have poor shells, or have too big air cells. But you can't tell about the fertility until the eggs have been in the incubator a few days.

After the eighteenth day, keep the incubator door closed until the chicks are hatched. Opening the door is apt to cut down the hatch. But there are a lot of little points about hatching and brooding chicks. Why, don't you just write for that Farmers' Bulletin No. 1538-F. It is called "Incubation and Brooding of Chicks."

****

ANNOUNCEMENT: Did you get that number? --- It was Farmers' Bulletin No. 1538-F and is called "Incubation and Brooding of chicks." You can get it for the asking by writing Radio Station ------ or by writing direct to the United States Department of Agriculture. It is a Government publication.

####

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM (Regions 1, 2, and 3) Wed. Feb. 6, 1929.
A

NOT FOR PUBLICATION

Crops and Soils Meeting No. 19-a: Breeding Better Corn.

ANNOUNCEMENT: Order in the Farm Forum! ---We are met today to hear a corn breeder from the U. S. Department of Agriculture. He is going to tell us about breeding better corn ------- All right, Mr. Expert --- these corn growers are plenty willing to hear how to get better yields ----------

******

I am going to tell you about first-generation crosses of selfed lines of corn. I make no claim that this is the last word in corn improvement. Let's hope not. It is a step forward. It offers a reliable method of increasing corn yields.

Probably the most striking evidence in favor of first-generation corn crosses is to be had from the Iowa corn yield test. In that test, these crosses came in direct competition with the best varieties entered by Iowa farmers. The first year that happened was enough! The crosses were so far ahead of the other varieties, that a separate class was established for them. The heretofore "best" varieties couldn't compete with them.

The story is pretty much the same in other States. In Minnesota, yields of as much as 30 per cent more than the best commercial varieties have been reported. In Nebraska, two of these crosses averaged 24 and 29 per cent more shelled grain to the acre than on of the best varieties, during a period of four years. In Connecticut, the acre yield of shelled corn from the Burr-Leaming cross during a 5-year period was 27½ per cent more than the average yield of the 5 most productive varieties in Connecticut. ---------- But perhaps I'd better explain just how we get this high-yielding corn.

As you all know, up until 20 years ago, the only worth while way we had of improving corn yields was by carefully selecting seed ears from the most productive plants.

That system had decided limitations. You see, corn is fertilized by the pollen from the tassel falling on the silks on the ear. The trouble is that ordinarily in a field of corn the pollen from the tassel on one stalk is carried on the wind. It falls on the silks of some neighboring or distant corn plants in the field.

For that reason, you don't get pure lines of corn. The ordinary commercial variety of corn is really a hybrid mixture to types of corn. It is kept hybrid by the chance pollination by wind-borne pollen.

About twenty years ago, however, Dr. George H. Shull suggested a way we could get relatively pure lines to use in our breeding work instead of such hybrid mixtures. We just covered the shoots and tassels of a number of plants with paper bags. That protected the plant from stray pollen from other plants. Then, when the right time came we just took the pollen from the tassel of a selected plant and put it on the silks on that same plant.

The better ears produced that way we used for seed. We planted the seed in ears rows and in due course we pollinated those plants with their own pollen the same way. We kept that up during several generations of corn. Each year we selected only the better plants in the better rows.

As you might expect, that in-bred corn didn't show up so well. Defects came out that had been hidden in the hybrid. During the first six or seven generations there was a decrease in vigor and productiveness. As we went along, however, the plants within individual lines became more and more alike. The lines became more distinctly different and bred more less true to those differences.

Now then, see what we had! --We had a lot of selfed lines; more or less pure lines. All those lines were inferior to the variety with which we started. Just to tell that much of the story, you might think that we had gone to a lot of trouble to produce poorer instead of better corn.

But bear in mind what had happened. We had just separated out the different characters in the original hybrid. The characters which made those lines inferior had all been in the original variety. But there had been good qualities, too.

We kept the lines which had good characters and bred true to those characters. By following this system, for instance, we find lines that are resistant to corn smut or to the root rot diseases. Or we may find lines whose stalks almost never go down in wind or storm. Or there are other lines with two ears on each plant or with extra long ears.

But now comes the important thing, the interesting thing! When two lines are crossed, the good characters of both parent lines tend to show in the first generation of the cross. On the other hand, many of the poor characters are not expressed in this first generation.

As a result, practically all the crosses among self-fertilized lines are much more vigorous and productive than the selfed line

themselves. Not only that, but the first generation crosses are also better than the original parent varieties. A few of them yield as much as 20 to 30 per cent more than the original parent varieties.

The next thing that the corn breeder has to do then, is to make and test as many crosses between his pure lines as he can. Out at the Iowa Agricultural Experiment Station they are making and testing some 400 to 600 crosses a year. In that way, they find the best crossed combinations. And those crosses are being used in commercial corn production. -----(As if interrupted) What's that? ---- Yes ----- Yes, I said first-generation cross --- "How about the later generation?

That's a good point. It's true, the poor characters are supressed in the first generation of the cross. But they do come out in the second and later generations. For that reason, you should not save the seed from fields planted with crossed seed corn -----(As if interrupted) "Where you going to get seed?"

You should plant only the newly crossed seed each year. That of course, brings up quite a practical problem in seed production. But, in spite of the few worth while crosses now known, several farmers and seed growers in different parts of the country have gone into the business of producing crossed or hybrid seed corn.

In case any of you are interested in that work, I'd suggest that you get Department Bulletin No. 1489. It is called "Corn Breeding." It explains the principles and practice of breeding first-generation crosses.

*****

ANNOUNCEMENT: Did you get that bulletin number. It is Department Bulletin 1489-D. It is called "Corn Breeding" and you can get it by writing this Station or by writing direct to the United States Department of Agriculture at Washington, D. C.

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

The Farm Forum (Regions 4 and 5) Wednesday, Feb. 6, 1929.

Crops and Soils Meeting No. 19b: Crops for Alkali Land

Speaking Time: 8 Minutes

ANNOUNCEMENT: The Farm Forum will come to order! -- The gentleman with us today is an Alkali Soil Scientist from the U. S. Department of Agriculture. He has kindly consented to answer any questions you may have ------ Ah, there's Tom Dillon ---- What's your question, Tom? --- Fire away, our expert is ready------

****

Did you in the back hear that?

Mr. Dillon asked what are the best crops for alkali land.

In answer to that, as a general thing, I'd say forage plants are usually the most satisfactory. Many of the standard meadow and pasture grasses do well on moderately alkali land. Alfalfa will stand considerable salt once you get it established.

However, the seedlings are sensitive. Before putting in alfalfa seed, you should wash the salt out of the top soil by heavy irrigations.

On some soils, white sweet clover or yellow sour clover will succeed where alfalfa fails. Wheat and barley, grown for hay rather than for grain, are often worth trying. Sorghum and beets are also fairly resistant crops to alkali.

Of course, you understand, the crop to plant on alkali land in any given locality depends on a lot of things besides the salt in the soil. In deciding what crops you have the best chance to grow successfully and profitably, you should take into account the climate, the texture of the soil, the depth of the water table, and the ease of reaching the markets.

For that reason, I'd advise you to consult the state experiment station. The men there are likely to know your local conditions. They could probably give you more definite advice. And, if you want to know about the subject generally the Department of Agriculture has a bulletin on this very subject. It is Farmers' Bulletin No. 446, and is called "The Choice of Crops for Alkali Lands."

Alkali salts, you know, are readily soluble in water. Ordinary table salt is one of the commonest salts in alkali soils. That being the case, the best thing to do for alkali land is to reclaim it by under-drainage and heavy flooding. In other words, wash the alkali salts out of it. I know that comes high. In many cases, it is not practical. ---- (As if interrupted) What's that? --- Why is the soil out here worse than in the East?"

I thought I just got through telling you that. They have less alkali in the eastern States, it is true. But it is not because the soil is so different. It is because the heavier rainfall leaches out most of the soluble matter as it is formed in the soil. In the East the salts which would make the land alkali are carried off in the drainage. On our land out here conditions favor evaporation. While a rainfall or irrigation carries the salts downward, conditions that favor evaporation from the surface favor accumulation of alkali at or near the surface. In other words, the sun takes the water and leaves the salt.

A comparatively small amount of alkali if mostly accumulated near the surface, will prevent the stand of many crops. That is why it often pays to plant just after a heavy rain or right after irrigation. The water washes the salts down deeper into the soil, and gives the plants a chance to get a start.

Alfalfa illustrates how that works. Alfalfa seedlings develop a taproot that penetrates into the soil very fast. If the salts have been washed out of the upper six inches of soil just before seeding, you may be able to get a stand and the alfalfa may not be injured even if an alkali crust is formed afterward. Occasionally you see flourishing fields of alfalfa several years old, where there is now so much alkali in the top soil it would be impossible to get a stand. The alkali has evidently risen since the seeding was done.

But where alkali soils have a tendency to form a hard crust on the surface, you can improve conditions by plowing under green manure crops if you can grow such crops. Sorgo, millet, barley, rye, rape and kale are good crops for that purpose where the alkali is not more than medium strong. Where there is a little less alkali than that, Canada field peas, and horse beans, and sweet clover make good green manure crops. ------(<u>As if interrupted</u>) ----- What's that? ---- "Gardens?" -------

No, I wouldn't recommend any truck crops or garden vegetables for extensive planting on alkali land. If you want to grow vegetables in a small way for home use, you might try asparagus, or onions, or celery, or beets, or spinach, or cabbage, or cauliflower, or kale, or eggplant, or tomatoes, and sweet potatoes. The asparagus and onions are most likely to succeed on land with a medium grade of alkali in it. -----(<u>As if interrupted</u>) What's that ---- Corn?"

No, no. Corn should never be planted on alkali land. It is very sensitive to alkali ---- (<u>As if interrupted</u>) "Sugar beets?"

Yes, the sugar beet is one of the most resistant of the important crop plants. But the amount of alkali in the soil which is not enough to hinder growth of the plants cuts down the quality of the roots for sugar. However, with a medium quantity of white alkali in the soil you can usually get a paying crop of beets ----- of course, it is useless to try to grow any crops where there is considerable black alkali.

If the land is worth it and you can get gypsum, you can neutralize the black alkali chemically with the gypsum . In other words, you can convert the black alkali to the less harmful salts and loosen up the soil with the gypsum. That will make it easier for water to penetrate. That will help wash down the other salts.

But as I said, you can get more complete information by sending for that Farmers' Bulletin No. 446-F. It is called "The Choice of Crops for Alkali Lands."

******

ANNOUNCEMENT: Did you get that number? Farmers' Bulletin No. 446-F. And it is called "The Choice of Crops for Alkali Land." You can get it by writing to Station -------- or by writing direct to the United States Department of Agriculture, at Washington, D. C.

####

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM

Thur. Feb. 7, 1929.

NOT FOR PUBLICATION

Dairy Meeting No. 19: Dairy Farming as a Business.

ANNOUNCEMENT: The Farm Forum will be in order! ---We have with us today some of our friends who are thinking about going in the dairy business. Since they wanted to know whether they should or shouldn't, we asked a specialist from the U. S. Department of Agriculture to tell us what he thinks of selecting dairy farming as a business --- and whether or not there is danger our getting too many dairymen? How about it? Do you think dairying pays, Mr. Specialist?

****

I doubt whether anyone ever selects dairy farming, or any other type of farming, with the idea that it will make him rich.

I'll say this much; the owner of a herd of high-producing, healthy dairy cows, properly fed and cared for, is sure of a good living for himself and his family. That is, he is if he has a good market handy.

Yes, I'd go even further than that. I'd say that compared with some other types of farming, dairy farming has many advantages.

In the first place, dairying brings in a constant cash income. In raising wheat, or corn, or cotton, or tobacco, or potatoes, or apples--- in fact, in single crop farming of any kind --- a farmer usually has a pay day only once a year. In dairy farming, he has a pay day once a month, once a week, or sometimes oftener.

In the second place, the income is in sight the day he buys the first fresh cow. That beats most other kinds of farming. In grain farming, you must plow, and sow, and wait. You must reap and thresh and haul the grain to market before you get a dollar for your work. On the other hand, an owner of a dairy herd with a normal number of cows in milk will begin to get returns in milk and maybe in money almost as soon as he begins to work. In that respect, he is ahead of the doctor, or the lawyer, or other professional man. They often have to go through a long "starving time", before their business begins to pay. But if a farmer selects a good farm, buys feed at a reasonable price, stocks the farm with a high-producing dairy herd, and has a good market, he is sure of a fair income from the start. -------

Yes --- I know ---- he may be rather deeply in debt. But he may be able to begin paying off that debt at once.

Another advantage in dairying is that labor is better distributed throughout the year than with most other types of farming. On a well-managed dairy farm, there is only a short time in the year when the farmer is swamped with work. There is no time when he has nothing to do. During the long summer days, he is busy growing and harvesting the feed crops for the cows. But at that time, the herd itself needs the least attention, because the cattle are gathering their own feed from rich pastures. During the short winter days, when the herd must be fed in the barn, when the barn must be cleaned, and bedded, and when the cows must be watered at a trough or by means of drinking cups in the barn, there are no seed to sow and no crops to harvest. ------

I see some of you smiling--Labor on a dairy farm is too well distributed to suit some of you. To be sure, dairy farming is not well adapted to those who want vacations often. Of course, a well-to-do dairyman can occasionally leave his herd and his farm in the hands of competent hired help, while he and his wife take their much needed rest.

Of course, not every farmer is cut out for a dairy farmer. Neither is every farm adapted to dairying. Some regions seem to be especially suited to it, others are not at all adapted to dairying.

However, there is a fourth advantage to dairying, which I would like to mention. Dairying keeps up soil fertility. Most dairy farms are fertile farms. The manure from the dairy herd enriches the soil. And the rich soil produces big crops of feed for the dairy herd. If the dairyman buys a large part of the concentrates, the soil gets more fertile each year and produces bigger crops of feed for the dairy herd.

I've known farms which were originally capable of carrying one cow to six acres so improved through dairying as to carry one cow to four acres. Yes, I can go even better than that. I know a few such farms which have been so improved in fertility by dairying that they now carry one cow to two acres, with the buying of a very little feed in the way of concentrates.

Many dairy farmers are finding it a first-rate plan to combine at least one cash crop, such as potatoes, with dairying. If too much land is not used for the cash crop, the well-fed dairy herd may keep the farm in such a high state of fertility that the cash crop will have a big yield and make you a good profit.

Of course, I'll admit there are also disadvantages to dairy farming. Even with all our modern machinery and equipment there is still a great deal of hand work to be done on a dairy farm. Then, too, a big, high-producing dairy herd means a big investment. And although while they are growing, animals increase in value considerably, after they have passed their prime, their value depreciates fast. There is probably no

type of farming that takes better head work to get the most out of it. ----
---(As if interrupted) "Danger?" ----- "Of too many going in for dairying?"

Oh, no. If dairy farming is promoted only in sections adapted to dairying and ir only those people who enjoy working with cows go into it, there is little liklihood that dairying will be overdone in this country -----(As if interrupted) What say? ------"Produce as much as we use?"

No, not quite. The figures show we are producing enough dairy products to supply our people 363 days in the year. We import only enough to supply our people the other two days.-------(As if interrupted) Did I hear somebody say that's a small margin.

Yes it is small, but you must remember that the population of this country is increasing 1½ million a year and that the per capita consumption of dairy products also is increasing.

As I said, there are some disadvantages to dairy farming. Because of the disadvantages, there are not too many dairy farmers today. And because of those disadvantages, only the wide-awake, progressive farmer who likes dairy animals should select dairy farming as a business.

****

ANNOUNCEMENT: Tomorrow we are going to talk prices -- prices for farm crops in general and how to plan to get better prices. Then next Monday we'll discuss ton-litter contests, Tuesday we'll try to find out what egg and poultry standardization means. Potatoes are on our menu for Wednesday. And this time next week, we'll talk silos and silage.

###

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM

Friday, February 8, 1929.

NOT FOR PUBLICATION

Farm Economics Meeting No. 19: Price Analysis

ANNOUNCEMENT: The Farm Forum will be in order!-- We are going to talk business today. We have an economist from the U. S. Department of Agriculture here. He is going to tell us about the studies of crop prices they've been making. He even says he has some suggestions by which we can make use of those studies to make more money--- We're always glad to have anybody put money in our pockets--- but just how are you going to do that, Mr. Expert?

******

We all know, prices change-----

But why do prices change?-----

I asked a bunch of men that the other day. Some of them seemed to think that price changes "just happen." Others were positive prices didn't change by chance. They were sure that prices were all controlled by the shennanigan of speculators. Anyway, both groups seem to think the up-and-downs of prices were more or less a matter of black magic.

Then one farmer spoke up and said: "I've noticed that when the apple crop is small, apple prices are usually high; but when we have a big crop, prices are low."

That was a simple, common-sense statement. Somebody else remembered about the low prices cotton growers got for their record crop of cotton in 1926. Those prices, he recalled, made a sad showing beside the high prices of 1923 when the supply was small.

Then another farmer groaned. "Did any of you men raise potatoes last year?" --- That almost broke up the meeting! --- It will be some time before some of us forget how that 460 million bushel crop knocked the bottom out of potato prices.

"Yes, but the other think happens, too," somebody else remarked. "Remember how the price of wheat shot up when the war broke out?"

"Sure," I put in, "that was due to the increased demand. But it doesn't take a World War to boost demand. Prosperous business conditions with big pay rolls also increase demand. When wages are high, laboring people eat more

butter and buy more clothes. When they do, they increase demand and raise prices.

"Not only that, but there has been a gradual upward trend in demand. Because of that, farmers get good prices for a supply that would have glutted the market and brought ruinous prices a few years back. For example, this last year's corn production of 2,840 million bushels was considered just fair size, and is selling at a fairly good price, but in 1889, a 2 million bushel crop was way too much and shoved prices way down to 36 cents per bushel for the year.

"Yes, gentlemen," I said to those men, as I say to you, "there are other things which affect prices of farm products. But taken by and large, in the long run supply and demand are the chief things. When you've measured the effect of supply and demand on prices, you find they explain a big part of the price changes." ------- "That's all right," I hear somebody say. "Suppose supply and demand do practically control prices? What can we do about it? We're not fortune tellers? How can that help us?"

Well, my answer to that would be to plan with an eye to the probable supply and demand.

"How can we tell what the supply will be?--- or what the demand will be?" you ask.

I know -- I've farmed -- I realize that raising a crop is a long time job. I realize that many of you are faced right now with the problem of what you are going to grow. And once you have decided, and started on your production program, you will have very few chances to make changes between then and harvest. Yes, and we can't get away from the fact that the price at harvest time, or later, will be the price you will have to take.

In some sections, farmers must decide between expanding the corn acreage or keeping down expenses, or maybe the decision is between planting a few more acres of wheat at the expense of the oats acreage. Some of you other farmers have similar problems. The point is how are you going to decide them?

Of course, you can't depend on the prices at planting time. Prices now may be a lot different from those prevailing at harvest time. You can hardly expect them to stay the same. ------- Yes, I know, ----- that is the way I used to do --- I used to go largely on the prices the season before or prices at planting time.

What do you get when you do that? I've sold my stuff at good prices one year, and then raised more stuff to get some more of those good prices. I've done that, only to find in the fall that there was so much of that stuff that you could hardly sell it for enough to pay for the hauling.

Not only that, but with stuff which will keep, there are often big stocks in storage which come into competition with the new crop. No, sir. I learned a long time ago that planning production on the basis of past prices doesn't even give you an even break. In fact, it tends to keep supply and demand consistently out of adjustment. ------- (<u>As if interrupted</u>) ----- What's

that? ----- What else can you go by? --- You can't know what the supply will be? -------

Well, of course, you never could tell what the supply and demand will be, if you had to depend on getting the information yourself. But, the government collects it. The Department of Agriculture gets information from all over the world about conditions which may affect our future crop prices. They figure up the probable total demand for each of the chief farm products. They collect information as to the amount of stocks on hand and production prospects. Most important of all, farmers all over the country send reports to the Department on their planting and breeding intentions.

All that information is collected, summarized and interpreted so the farmer can have as complete a basis as possible on which to decide what to do. Knowing those supply and demand conditions, as reported --- knowing what the other fellows are going to grow and how much --- you get a picture of the prospects. Then you are in a better position to make your plans, to plan your crops so as to take advantage of big demand and good prices or so as to avoid oversupply and poor prices. --- (As if interrupted) --- Yes? --- Where can you get that information?

Why, it is in that Outlook Report issued by the Department of Agriculture week before last. I have a copy. If you don't have a copy, you should get one, study it, and plan your crops accordingly.

******

ANNOUNCEMENT: Copies of the Outlook Report can be obtained through this Station or by writing direct to the United States Department of Agriculture. This Outlook Report will show you the prospects for the principal farm crops in the United States. It is issued every year about this time for the benefit of farmers making their plans for the year.

######

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM — Monday, February 11, 1929.

Livestock Meeting No. 20: — Ton Litters Contests

ANNOUNCEMENT: Order in the Farm Forum!.--- Hog men to the front, please! -- Some of you have been arguing about ton-litter contests --- and the value of them. Today we have a specialist from the U. S. Department of Agriculture to tell us about ton-litter contests. And judging by the papers and records he was just unpacking, he's got some evidence on this subject ------All right, Mr. Specialist -- tell us about it ------

****

The ton-litter is making hog history!

It is just a little over 7 years since James R. Wiley of Purdue University started these contests. But now, it seems, the ton-litter idea has all the earmarks of a pioneer movement destined to become famous. It seems destined not only to become famous in hog history, but in the entire field of livestock raising.

There was a lot of criticism at first. Even many of those who agreed with the idea, thought Wiley and his men were setting the figures too high. But the record of what has actually been done is little short of miraculous.

Here's one State boasts of the heaviest litter of pigs ever produced by one sow; more than two and a half tons of pork in six months. Another state turns in the record of 18 pigs farrowed and raised in one litter. In a third State has been discovered a sow which weaned 104 pigs in nine litters. - When this report was written she was suckling her tenth litter, consisting of 10 pigs.-- A fourth State boasts it has established three world's records in the five years it has been in these contests but admits they all have since been broken by other States.

During the 7 years since the ton-litter movement began, approximately 3600 ton-litters have been recorded in 36 States. Ton-litters have been produced in States extending from the Carolinas and Virginia on one coast to Oregon and Washington on the other; and from Montana and Minnesota on the North to Louisiana and Texas on the Gulf. Instead of keeping to the Corn Belt, the ton-litter idea has had some of its biggest successes in other sections.

Texas, Minnesota, and Tennessee have made fine records. Pennsylvania leads the country to date with 490 ton-litters during the 6 years she has been in the contests. In 1927, Pennsylvania produced 126 ton-litters in 40 different counties. Mercer County led with 11. A high-school boy in Columbia County, Pennsylvania produced six ton-litters, year before last. The six litters weighed a total of about seven tons. --------- (As if interrupted) What's that? ---- "How did he do it?"

Well, the 62 pigs in the winning litters, and 38 others, were raised and fattened on self-feeders in a four-acre clover field. They were also given slop during the finishing. And five of the six litters were sired by the same purebred Berkshire boar.

In fact, of the 126 winning litters in Pennsylvania in 1927, 103 or 82 per cent were sired by purebred boars. Fifty-five of them were out of purebred sows as well. The other 23 litters has high percentages of pure breeding back of them. All six of the winning litters in Mississippi were sired by purebreds. Seven States report that no litter succeeded in making the ton weight which was not a purebred litter. Fifteen States showed purebred boars siring all the winning litters.

So you see, these ton-litter contests are demonstrating the value of heredity in breeding. Of course, there has never been any question about that in the case of race horses and dairy cattle. But some farmers have been a little skeptical about breeding counting for so much in meat animals. But these ton-litter contests furnish proof you can't get away from. ------(As if interrupted) Just a moment ---- Now then, what's your question? --- "What breed is best?"

Why, every breed of hogs commonly raised in the United States has produced a ton or more of pork within the 6-months limit, in these contests. The records show ton-litters from Berkshires, and Poland Chinas, and Chester Whites, and Duroc Jerseys, and Hampshires, as well as from bacon hogs like the Tamworth and Yorkshire. There is no record of a winning litter which did not carry a high percentage of one or more of our pure breeds. There is no record of a scrub litter making the goal. Three years ago, Pennsylvania reported that 18 scrub litters tried and failed. ----(As if interrupted) What --- "Do ton litters pay?"

Why, sure they do.--Just a moment --- I'll read you what some of the States report on that ---- Here's a Minnesota report. It says:

"Pigs crowded from the day they begin to eat until they are marketed invariably make the cheapest gains. The shorter time will require less feed from maintenance and lessen the risk of disease. No one realizes this better than farmers who finished the contest in September and early October. Many admit that they made more profit on the ton litter than they did on three or four other litters that they marketed later."

And here is a report from a Tennessee county. The county agent tells here how 60 per cent of the hog population of his county is being fed tankage and mineral mixtures as a supplement to corn in comparison with 3 per cent a few years before. He writes: "This change was brought about through ton-litter demonstration work, which showed more profit from hogs properly fed and given proper care."

I could read many more such testimonials. But I think that's enough for you to realize that ton-litters do pay. And, not only do they pay, but they are a test of hog raisers as well as of hogs. Many try and fail to produce ton-litters. But more and more are learning from these contests the importance of swine sanitation and proper management.

Here's a Colorado report which says: "Twelve of the 19 litters which reached the goal had no death loss, and in practically all instances their owners fed a balanced ration supplemented by a protein concentrate and had legume pasture."

-----(As if interrupted) What say? --- "Pig crop?" -- "The difference between ton-litter and pig-crop contests?"

Well, M. B. Posson, former State extension agent of Nebraska, started the pig-crop contests. The only real difference is that the pig-crop contest measures the average pork production of all sows which farrow on each farm entering the contest. The pig-crop contest was an outgrowth of the ton-litter contests.

The tendency of all these contests is to require the keeping of accurate records so that the contestants may be used for demonstration. "By having the sows and their respective litters earmarked," writes Missouri, "it makes it possible to go through and cull out the sows whose pigs have not responded to feed as they should. In other words, it makes it possible to apply something similar to a cow-testing record on the sow herd."

You see the chief value of the ton-litter contest is not in the medals pinned on the winners. The chief value is that it has given us a standard for the production of better paying hogs.

****

ANNOUNCEMENT: Tomorrow we will talk about egg and poultry standards. Wednesday we'll talk potato seed sanitation. Thursday our dairy meeting will be devoted to silos and silage. And Friday we'll discuss preserving wood on the farm.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM — Tuesday, February 12, 1929.

Poultry Meeting No. 20: — Egg and Poultry Standards.

ANNOUNCEMENT: The Farm Forum will be in order! --- We have with us today a market expert from the U.S. Department of Agriculture ---- He is a specialist on egg and poultry standardization ---- He --- by the way, Mr. Specialist, what does egg and poultry standardization really mean anyway? --- Tell us all ---- All these poultry raisers would like to know -------

****

Well, I might say, national poultry and egg standardization means progress in the poultry and egg business. It means more efficiency and better conditions of marketing. At least, that will be the result.

To understand why that is the case, you must remember that eggs are bought and sold by the half-dozen, and the dozen, and the case; in quantities, in other words. Poultry is bought in large quantities, too.

But an egg or a chicken has individuality --- some of them too much so. Eggs differ in size, and color, and quality. Poultry differs in age and sex. It is plain that a dealer can't handle a miscellaneous and unknown assortment of eggs and chickens to nearly as good advantage as he can a sorted and graded selection which puts him in the best possible position to cater to the wants and preferences of his customers.

Packers found that out a long time ago. They have been grading eggs and dressed poultry for years and years. But packers have individuality as well as eggs. Each packer's plan of grading differs to some extent from the practice of other packers. The brand put up by one packer may be known to certain groups of dealers in the market, but it may be of unknown character to dealers in other markets. That makes a good chance for a row or misunderstanding.

In order to provide a plan for open trading, groups of dealers in the bigger markets have formed exchanges. Those exchanges have set up official grades designed to decrease misunderstandings concerning the quality of eggs and poultry. Those official grades are the basis upon which wholesale trading in that market may be carried on.

Those are efforts at standardization. They aim to set up standards to which poultry and eggs must conform. In doing that they are trying to bring about mutual understanding as to quality. Exchange grades of course go much further along the road to standardization than individual packer's grades, because they are known and understood by more people.

Nowdays, however, eggs and poultry are produced in all parts of this country. They are moved distances as far as from the Pacific to the Atlantic coast, and from Texas to New York for marketing. To bring about the best understanding between dealers in different sections and so cut down misunderstandings, the ideal arrangement would be country-wide standards.

Such country-wide standards should be a big boost to the egg and poultry business. They will guarantee the consumer better satisfaction. Satisfying the consumer is the key to causing him to eat more eggs and chickens. And if we can boost the per capita consumption of eggs and chickens, we can expand our chicken and egg business way beyond its present size; and still keep it on a paying basis.

The U.S. Department of Agriculture has already laid the ground-work for that nation-wide poultry and egg standardization. The Department has defined standards of quality for individual eggs or chickens and has suggested grades for practical use in grading and packing them. -----(As if interrupted from audience) --- What? --- Just what do you mean? --- "What are the standards?" --- "What do they base their standard grades on?"

Well, in the case of eggs, in determining the quality both the inside and outside of the egg is considered. The size of the egg, the color of the egg, the cleanliness of the egg and the condition of the shell are all taken into consideration ---(As if interrupted) "What do I mean by the condition of the shell?"

By condition I mean the freedom of the shell from cracks or weakness. Of course, strictly speaking, those outside factors have to do with the value of the egg rather than its quality. The true quality of an egg shows up in candling. The size and condition of the air cell in the egg, and the condition of the white and the yolk, and the condition of the germ all are taken into consideration in the quality standards set up by the government.

In the case of poultry, the outside of the individual chicken or other class of poultry, must be relied upon entirely as poultry is usually sold in an undrawn condition. In the standards for poultry the age and sex and condition of fleshing, and color, and softness of flesh, and freedom from bruises, and poor bleeding, and skin tears and deformaties are taken into consideration.

Just getting up standard grades for eggs and chickens was not enough. There had to be some way of applying those standards. For that reason, the Department of Agriculture has established official grading services at various terminal markets. At the present time, Federal or Federal State poultry or egg grading services are in operation at New York City, and Chicago, and Boston, and Philadelphia, and Washington, and San Francisco, and Los Angeles. At those points, lots of poultry and eggs are now officially graded for those who ask for the service and pay the prescribed fees.

The national standards and grades are now being used to a greater or less extent, but not yet fully and everywhere. To cause the use of these standards universally throughout the country will take the cooperation and concerted action of the various groups which make up our great poultry and egg industry.

But, as I said in the beginning, national poultry and egg standardization will mean progress in the egg and poultry business. It will mean more efficiency and better conditions of marketing.

****

ANNOUNCEMENT: Tomorrow we'll talk about potato seed treatment. Thursday we'll go into some of our silage and silo problems, and Friday we talk about preserving wood on the farm. Then next Monday we'll get the horses ready for the spring work.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM

Wednesday, February 13, 1929.

REGION 1, 2, 4 & 5

NOT FOR PUBLICATION

Crops and Soils Meeting No. 20a: Potato Seed Disinfection.

ANNOUNCEMENT: Order in the Farm Forum! --- Here's a potato specialist from the U. S. Department of Agriculture. He wants to talk to this meeting about treating seed potatoes. I guess we all want to know how to treat and what's the best disinfectant ------- we've been hearing a lot about potato treatment lately, Mr. Specialist; but some say one thing and some another --------

****

Yes, potato growers are more interested in treating seed-potatoes than ever before.

Now that we have done away with the slowness of the old-time treatments, with quicker large-scale methods and newer disinfectants, more farmers are treating their seed. And plant disease experts have found out more about treatments than we ever knew before. We are beginning to feel we know more nearly where we stand in regard to this whole question.

But the more we know, the more we realize that there is no one best way to treat seed potatoes. And that the need for treatment varies considerably in different parts of the country and in different years.

"To treat or not to treat;" that is the question, with most of you men. In particular, should we treat seed potatoes as a regular routine thing? Or should we do it only in case the seed show signs of disease?

In answer to that, I'd say that in certain circumstances and localities seed disinfection may be unnecessary; but it seldom does any harm. And it will most certainly pay to treat where seed potatoes show either black scurf or scab in appreciable amounts.

Now, as for the treatment. No seed-potato treatment has yet been devised that will give, year in and year out, better control of the various forms of Rhizoctonia or will have better effect on yield than the standard corrosive sublimate soak for an hour and a half. --------(As if interrupted) That's all right --- I know --- I know what you are going to say.

Corrosive sublimate is impractical for large-scale operations. It does take too much time and too big tanks if you handle large quantities of potatoes at one time. The quicker treatments, such as the organic mercury dips, are more popular nowdays. They have shown fairly consistent increases in yield. They are not quite so good for controlling black scurf. And for the control of scab, the hot formaldehyde treatment is generally better than the hour and a half corrosive sublimate treatment.

So you see, the seed treatment depends partly on your location and whether black scurf or scab is your biggest problem, and partly on whether the saving in time and work outweigh the greater efficiency of the slower treatments.

Seed treatment, however, is not expensive even though you use the organic mercury products. The cost of materials for treating shouldn't be over five cents a bushel. That is, it shouldn't be if you clean the seed before treating them; and if you put the solution in containers which don't absorb or weaken it; and if you have a drain board to carry the surplus solution back into the treating tank.

And just look what you may get for that five cents a bushel added to the cost of the seed! Seed treatment has often been responsible for 20 per cent gains in total yield. Where potato diseases are bad, the increases in yield from treatment of prime stock run up to 50 or 60 per cent. ----- (As if interrupted) All right? -- What's the question? --- "Would I treat clean seed?"

Well, whether to treat seed that is already clean or looks clean depends chiefly on ehether decay of seed pieces after planting is among your troubles. Seed treatment cuts down, and sometimes entirely prevents seed-piece decay. Though it might seem that treating cut seed would give the best protection against seed piece decay, as a matter of fact it works just as well to treat whole tubers. And, of course, you understand, the organic mercury dip treatment is the only one which can be used on cut seed, and even this isn't safe in the South.

But whatever treatment you give, know your seed, and where it comes from. Certified seed carries a record of its source and a generally dependable declaration that the proportion of disease is low. Certified seed is usually better than uncertified seed, no matter where the uncertified came from. And certified seed is much better than seed of unknown origin. ------(As if interrupted) --- Sure! ----- I'm here to answer questions ----"When should you treat?" you say? ---

Well, the potatoes should be unsprouted or they should only have short sprouts, at most. You can treat them a considerable while before cutting if you take care in putting the seed back in storage not to expose them to infection from old sacks, or baskets, or bins that have not been disinfected.

If you do not plant them right after cutting, put the potatoes in crates or baskets of not over one bushel capacity and pour them from one crate or basket to another after one or two days so they won't stick together. Store them in a room where the temperature is not lower than fifty or higher than seventy degrees and where the humidity is moderately high. Never expose them to fast drying or to heat.

Certified seed should need no sorting, but field-run stock should be worked over, so as to throw out all the potatoes showing a bad attack of scab or black-scurf or decay or internal discoloration.

During the treating, you can handle the potatoes most conveniently in wire baskets or wood crates. However, you can't use wire baskets with the corrosive sublimate. -----(As if interrupted) How's that? ----- "Burlap bags?"

Yes, burlap bags can be used with any method, but they cause corrosive sublimate to lose strength and they interfere with the fast coating of the potatoes in the organic mercury dip.

That organic mercury dip is like the dry treatments of grain seed with dust disinfectants. All you need is to dip the potatoes for a minute to give them a coat of the solution.

Or, it is really not a solution. You add 1 pound of the chemical to 2-1/2 gallons of water. That forms a milky liquid with the particles of chemical suspended in the water. Directions come with the dip materials.

And I might add the United States Department of Agriculture has a bulletin on "Control of Potato Tuber Diseases" which it is well for every potato grower to have. Ask for Farmers' Bulletin No. 1367-F.

****

ANNOUNCEMENT: I'll repeat the name and number of that bulletin. It is Farmers Bulletin No. 1367-F on "Control of Potato Tuber Diseases." You can get it free of charge by writing to Station ---------- or by writing direct to the U. S. Department of Agriculture at Washington, D. C.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

THE FARM FORUM Wednesday, February 13, 1929.

Region 3

Crops and Soils Meeting No. 20b: Sweet Potato Sanitation.

Speaking Time: 9 minutes

ANNOUNCEMENT: The Farm Forum is in order! -- At this meeting today we have a Sweet Potato Expert who will tell us how to treat sweet potato seed and sweet potato hot beds so as to get the best yields of sweet potatoes. This specialist is from the U. S. Department of Agriculture and gives us the conclusions of the Department, on how to dodge sweet potato diseases.

******

Using the same soil year after year is one of the chief ways of perpetuating sweet potato diseases.

You all know how that is. After the plants are all pulled from the bed, the soil is often either left in the beds or thrown out to one side with all the decayed potatoes and manure.

Under such conditions, the disease-causing organisms keep multiplying; multiplying so they can subtract from your profits. Because if that same soil is used again the next year, it serves as a source of infection for the new crop.

If that soil is thrown out at the side of the bed many of the disease-causing parasites in it find their way back to the new bed.

The use of clean seed sweet potatoes is of little value unless the seed is bedded in disease-free soil. It is therefore up to you to first see that the soil or sand from the old beds is disposed of. Replace it with new soil or new sand for the new crop.

Before you add new soil, however, disinfect the framework thoroughly by spraying with a solution of 1 pint of formalin to 30 gallons of water. If possible, repeat the treatment after 24 hours. Or, if more convenient, use copper sulphate, 4 pounds to 50 gallons. It makes no difference which disinfectant you use -- Gather up the decayed sweet potatoes from around the bed and destroy them and give the ground a thorough wetting-down with the disinfectant.

It may not matter where you get the disinfectant, but it does matter where you get the soil or sand for the hot-bed. If possible, avoid getting it from fields where sweet potatoes have been grown. Good quality sand, sand that doesn't form a hard crust, will give better and stronger sweet potato plants than soil. The sand is much less likely to be infested with disease germs.

When possible, get the soil or sand from the woods or from uncultivated fields. Even then, it is a good idea to throw off the surface six inches and use the subsoil. And in handling and hauling new soil or sand, don't use implements which have been used to haul away the old dirt until you have first cleaned and then disinfected them with a solution of either formalin or corrosive sublimate.

And mixing manure in the soil to make heat or to make the plants grow is a bad practice. The chances of getting disease germs from manure in the seed bed are too big. If you have any other way to get heat, don't use stable manure. ------- (As if interrupted) Yes? ------

Yes,"pure sand," that's what I said. ----- What's that? ---"No food in sand", you say?

Nevertheless, the experiments show you can get better rooted plants in sand than you can in rich dirt as the plants grow from the food stored in the seed potatoes.

With sand, however, you should take care not to burn up the young sprouts before they get out of the ground. You can get around that by shading the bed with canvas during the hottest part of the day. Or you can keep the sand moist at the surface by putting a little water on it.

Keep the temperature of sweet potatoes in the hot bed as near as possible at from 75 to 85 degrees. A temperature of 90 is not dangerous, and sweet potatoes will stand 100 degrees temperature for a short while. After the potatoes have sprouted, you should lower the temperature and take the cover from the bed in the daytime during fair, warm weather, so as to prevent the plants from growing too fast and getting too tender. In other words, sweet potato plants should be hardened before they are planted in the field----

But wait a minute! We haven't put the seed potatoes in the bed yet. After the surroundings have been thoroughly disinfected and after the bed has been made of new, clean sand or soil, we are ready for the sweet potato roots.

But we don't want to put bad seed in good ground. So before you bed the sweet potatoes, you should sort them out. Discard any that show black rot or other diseases.

We can't get rid of any germs which may be under the skin, but we can get rid of those which may be sticking to the outside. Before bedding, therefore, you disinfect the surface of the roots by putting them in a solution of corrosive sublimate for ten minutes. ---- (As if interrupted) What say? --- "How do you make it?"

Just dissolve one ounce of the corrosive sublimate crystals in a small quantity of hot water and dilute to 8 gallons. Bed the sweet potato roots right after you treat them. There is no need to rinse them in water or dry them; bed them as soon as you treat them.

Don't put the corrosive sublimate in iron or tin tubs or buckets. Use only wooden or enamel containers, as the iron or tin takes some of the

strength out of the solution. Corrosive sublimate is a poison and should be kept away from animals. Treated potatoes should not be eaten.

A bushel crate or bushel basket is a good thing to hold the potatoes in when you are dipping them. Never use grain or gunny sacks because they'll take the strength out of the disinfectant, too.

For ordinary farm practice, a 63-gallon barrel about half full of the corrosive sublimate solution answers the purpose very well. However, if you have large quantities of potatoes to be treated, you may use a wooden tank holding several hundred gallons.

Assuming that the potatoes are reasonably free from dirt, each 5 bushels of potatoes will take 5 per cent of the mercury out of the corrosive sublimate solution. So, after treating ten bushels add 2/5 to ½ ounce of corrosive sublimate and enough water to bring the solution to its original volume.

And remember, in treating seed sweet potatoes, if you let them stay in a solution of either corrosive sublimate, or formaldehyde, or any of the organic mercury compounds too long there is likely to be some injury to the potatoes. Formaldehyde causes more injury than corrosive sublimate and for that reason I wouldn't recommend it. And until more is known about organic mercury compounds their use is not advisable. The corrosive sublimate treatment has been thoroughly tested. Better stick to that.

With clean seed bedded in clean soil, you will be well started toward a good crop of sweet potatoes. However, it is always well to be forehanded in these matters. I'd suggest that you get that Farmers' Bulletin No. 1059-F, on "Sweet Potato Diseases." That will help you recognize trouble when you see it, and tell you what to do.

****

ANNOUNCEMENT: That bulletin on Sweet Potato Diseases is Farmers' Bulletin No. 1059-F. You can get it free of charge by writing to Station ------ or by writing direct to the United States Department of Agriculture at Washington, D. C.

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM

Thursday, February 14, 1935.

NOT FOR PUBLICATION

Dairy Meeting No. 20: Silos and Silage.

ANNOUNCEMENT: The Farm Forum will be in order! --- This is our dairy day. We've asked a specialist from the U. S. Department of Agriculture to come here and tell us something more about silage --- You all know that silage is mighty important in making a dairy farm pay ------- but I'll let this expert tell you just how important ----------

****

The Chairman is right.

To make dairying pay, the bulk of the ration should be home-grown.

Now, cows will eat more when the roughage is made of hay and silage, than when it is all hay. So you see, silage enables you to make more use of home-grown feed. That cuts down the outlay for concentrated feed. Silage furnishes food value in a cheap form and cows like it.

Silage is usually fed twice a day. But you had better feed it after milking instead of before milking. It is true, it has been shown that feeding silage has very little effect on the flavor of milk. But to be on the safe side, and avoid any possible trouble of that kind, better feed the silage after milking.

And remember, corn silage is not a complete food. It is too low in both protein and minerals to be used alone as a feed for milking cows. You can make up part of the lack of minerals and proteins, by feeding well-cured legume hay. Then, too, you should feed a grain mixture with some wheat bran, cottonseed meal or linseed meal in it. That will make up any lack of minerals. It will enable the cows, especially the heavy milking cows, to get enough food to meet their needs without drawing on their body stores and getting thin. -------- (As if interrupted) How's that? ----"How much?" How much silage would I feed?

Oh, feed at the rate of about 3 pounds a day for each 100 pounds that the cow weighs. Along with that, give the cow all the legume hay she will clean up. With average hay, that will be about a pound or a little more for each 100 pounds that the cow weighs.

You understand, roughage is fed according to the size of the cow instead of on the amount of milk she gives, as in the case with grain. The reason for that is, that the roughage is expected to take care of the up-keep of the cow; whereas the grain provides extra feed that goes largely to make milk.

In case you have plenty of silage but are short of hay, you can feed a little more silage and a little less hay. On the other hand, if hay is plentiful and silage is scarce, you can feed less silage and more hay.

Anyway, give the cow all the roughage she will eat. Watch your supply of rough feed. Raise or lower the proportions of silage and hay so that the herd can get both feeds the entire time the cows are in the stable, rather than run completely out of either hay or silage.

Young stock, after they are three months old, may be fed all the silage they will eat along with hay and a little grain. Yearlings will eat about one-half as much as mature cows.

In cold climates there is often some trouble with frozen silage. Frozen silage should never be fed until it is thawed out. To thaw it, it should be put in a warm place. Then it should be fed before it has a chance to either spoil or dry out. Handled that way, frozen silage won't hurt cows

You should take silage off the top at the rate of 1-1/2 to 3 inches a day, depending on the outside temperature. The warmer the weather, the more silage you have to take off the surface every day in order to prevent spoiling. ---------(As if interrupted) How's that? --- The silo? "How big should the silo be?" Is that what you are driving at?

That, of course, depends on the size of your herd. However, don't make the diameter too big? It is a common mistake to make the diameter of the silo too big for the size of the herd.

The weight of a cubic foot of silage varies according to the height of the silage; but in a full silo 30 feet high, it averages about 40 pounds. So, by knowing how much silage is fed a day, you can estimate what the diameter of the silo should be to allow for taking off a certain number of inches in depth each day.

The height of the silo will depend on the amount of silage you need during the silage feeding season. In general, I'd say, the height should be not less than twice nor more than three times the diameter. On account of pressure from above, the greater the depth, the better the silage. If the silo is less than 24 feet high, the silage won't be best-quality. But it takes a lot of power to elevate cut corn into a silo, so you should avoid making it extra high.

If you are putting up a silo, be careful to see that the inside walls are smooth; so as not to interfere with the silage settling. If you don't make the walls smooth, air pockets will develop and some of the silage will spoil. If necessary, plaster the inside with cement. The heavy pressure of the silage on the sides of the silo near the bottom make it necessary for you to build the walls strong with plenty of reinforcement with iron. In laying brick or stone, use cement mortar. -------- (As if interrupted) What say? ---"The best kind?"

Well, a hollow tile silo makes the farm attractive. The air spaces in the tiles lessen the freezing of silage. But, as with brick or stone, you should take care to reinforce the walls and to make them absolutely air tight. Use cement instead of lime mortar.

Concrete reinforced with woven wire fencing or iron rods are economical, where sand and gravel are cheap. It is necessary, however, to treat the inside of a concrete silo with a cement wash or with hot parrafine about every five years or oftener to protect it from the silage acids.

Then there is the wooden stave silo. As a rule, they don't cost as much as the others. You can put them up quicker and move them if you want to.

In putting up a silo of any kind, the main things to bear in mind besides the cost, are durability, and rigidity, and appearance, and size, and airtightness of the sides and doors. When built right, a silo built of either wood, brick, stone, tile, or concrete will keep the silage in perfect condition.

With all types of silos, you should lay the foundation on solid ground below the freezing line. That's especially important with masonry construction to avoid cracks in the walls due to lifting through freezing or to settling. ----(As if interrupted) What's that? --- On feeding? --- Why, the Department of Agriculture has a bulletin on that. It is Farmers' Bulletin No. 578-F called the "Making and Feeding of Silage."

*****

ANNOUNCEMENT: The bulletin just mentioned is Farmers' Bulletin No. 587-F and is on the subject of "The Making and Feeding of Silage." Copies can be obtained free of charge by writing to Station ------- or by writing direct to the United States Department of Agriculture.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM Friday, February 15, 1929.

NOT FOR PUBLICATION

Farm Forestry, Meeting No. 20: Preserving Farm Timbers.

ANNOUNCEMENT: Yes, this is the day we agreed to talk about preserving farm timber -------- Guess I'd better call the meeting to order ----- "How long will it last?" ----- Oh, not long. ------ Oh, beg pardon, I thought you were talking about the meeting ----- if you're talking about fence posts, I'll let our Farm Forester here answer that ----- Listen, you Farm Forum members! -- the meeting has already started -- better gather around ----------

*****

I was just telling Hi Williams here that if he can't get rot-resisting woods like cedar and white oak for fence posts, good creosoting will fill the bill. A good preservative treatment with coal tar creosote is the best way to make fence posts last longer.

Hi just asked how long a pine fence post will last with a good creosoting. I'll say to you all, what I was just going to tell him, that a pine fence post that will last only from two to five years without treatment, will often last twenty years or more with a good creosoting. -----(As if interrupted) How's that? ---- "How about poplar?" -----

Sure ---- The same goes for poplar. In fact, by proper treatment, you can extend the life of almost any kind of wood. Good creosoting will make the less-lasting woods last as long in the ground as the best of the naturally durable woods will untreated. Anywhere wood is used in contact with the soil or in other damp places, a preservative treatment will make it last longer.

In some lumber yards you can buy posts treated with hot creosote under pressure. But if that is not convenient or if you want to cut down the cash outlay, you can treat your own posts at home. -----(As if interrupted) -- Yes? ---- "How would you treat them?"

Well, the simplest way is in an open tank. You need a metal tank big enough to hold 10 or 20 posts and strong enough to stand the weight of the oil and the posts. It should also be tight enough to be heated without damage or leakage, and high enough so that the oil can come at

least 6 inches above the ground line when the posts are set in the fence ---(As if interrupted) "Wood?" ---"Would a wooden barrel do?"

I would say that it certainly would not. Wooden barrels or tanks should not be used. The hot creosote is likely to leak out and be wasted fast. Then, you can't conveniently heat a wooden barrel without steam.

Now, a 110-gallon oil drum with one head cut out might be used, but it is hardly deep enough, and a larger one is better. The 50-gallon drums are entirely too short. A good size for a small plant is about 3 feet in diameter and 4 or 5 feet high. Of course, for lumber or other long pieces, except poles, the tank should be horizontal and long enough so the wood can be put completely under the creosote.

After you've submerged the lumber in the oil, or stood the posts or poles in the oil in an upright tank, you then heat the oil to about 200 degrees. Don't trust to guessing the temperature. Use a thermometer. After two or three hours heating, you can stop and let the wood and creosote cool off together.

It is a good idea to do the heating in the later afternoon. Then you can just let the cooling go on overnight. After cooling for half a day or more, you should turn over the posts to let the tops soak in the oil for a few minutes. Of course, that's not practicable with poles.

Before treating posts, strip off all the bark, especially the inner bark, You may have to use an adz or a draw-knife. But get the bark off; creosote doesn't penetrate bark easily. And the wood should be thoroughly seasoned and dry. Round posts generally take better treatment than split posts and when they're well treated they last longer, too. -------(As if interrupted) "Where?" --- Where do you get creosote?

It's made from coal tar of coke ovens or coal gas plants. You can get a list of the known producers of coal tar creosote from the U.S. Forest Products Laboratory at Madison, Wisconsin ------(As if interrupted) --- What say? ----How much does it cost? ------

Well, the cost varies considerably. But you should be able to get it at from 35 to 50 cents a gallon, not counting freight cost. It takes about a half gallon to the post.

You can cut down the cost, if several of you in the community go in together on it. The price of creosote is less per gallon in large quantities, and if enough farmers go in together they can establish a big convenient plant at a low cost per man.

When there's enough treating to be done, such a plant can be set up in a convenient central location and can be kept in operation there. However, if the posts are cut on farms far apart, it may be

better to buy a smaller plant which can be moved from farm to farm. When there is several months work to be done, it may pay to have a good man go with the plant and run it with extra help as it is needed at each place. ----- (As if interrupted) Yes? -------"Zinc chloride?" ----

Yes, that's true. Zinc chloride, and sodium fluoride, and other water soluable preservatives are usually cheaper than creosote. But they are sometimes not so good in preventing rot. A simple way to use them is to just let the wood soak in the cold solution for a week or two. If you want detailed instructions on how to use that steeping process, just write to the United States Forest Products Laboratory at Madison, Wisconsin, They will send you the information free of charge and will be glad to do it.

But, as I said, the best way to make farm timber last is by a good creosoting.

*****

ANNOUNCEMENT: Monday we are going to get the farm horses ready for spring work. Tuesday is regular Poultry Day in our Farm Forum, and Wednesday we'll follow some of our crops to market. When we get back, on Thursday, we will see how to feed and care for the dairy bull. --- And then, on Friday the subject of Farm Loans will be before the Farm Forum.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM Monday, February 18, 1929.

NOT FOR PUBLICATION

Livestock Meeting No. 21: Getting Horses Ready for Spring Work.

SPEAKING TIME: 8-1/2 Minutes.

ANNOUNCEMENT: The Farm Forum will be in order! We have with us today a horseman from the U.S. Department of Agriculture. He has mounted this platform to tell some of us how to get our work horses ready for spring work. I know some of you men have a knack of handling horses, but some of us don't. Maybe we can get some suggestions which will help this spring.

****

The start toward fitting a horse for spring work is keeping it in good condition during the winter. A horse shouldn't be fed during the winter so that it gets fat and soft. On the other hand, it shouldn't get thin and weak. It is bad management to let a horse lose weight during the winter and then try to bring it back to normal on heavy feeding just before the beginning of spring work.

But we'll just take it for granted that you have been using roughage liberally this winter. We'll also suppose you've supplemented that with the right amount and kind of other feed. Even if the horses are healthy, however, you can't switch right in to heavy spring work without getting them ready for it.

You can't make big changes in a horse's way of living all of a sudden. You should go about this fitting gradually.

You see the idea is to condition the horses so they'll be able to convert their feed and stored-up energy into full power each work day.

Before and during the fitting period, you should tone up the horse's digestive system so it will work well when it has the most work to do. You can do that by gradually increasing the ration as you gradually increase the work -------(As if interrupted) Yes? --- Did the gentleman who just stood up have a question? ---- Yes? ----- "How long?"

Oh, the preparation of horses should begin several weeks before they are actually put to heavy work. Of course, the time it takes depends a good deal on the horse and the way it has been wintered.

The condition of the horse properly cared for in the open during the winter is more nearly ideal than that of the horse that has been kept in the stable. A horse that is either very thin or one that is very fat needs a longer fitting period; that is, longer than a horse in thrifty condition and fair flesh. A young horse, especially if it has just been broken, needs a longer time for fitting and training than a mature horse. However, the average time usually allowed for fitting a horse for spring work is two to four weeks.

You can save by using coarse, nonsaleable feeds during the winter, but early in the spring the horses should be put on a smaller ration of finer-quality hay and should be started on a light feed of grain three times a day. And remember, all changes in both kind and quality should be made gradually -------(As if interrupted) Yes? --- "How much?"

Well, when light work has commenced, a 1,400-pound horse should be getting about 14 pounds of grain and about 14 to 15 pounds of fine-quality hay each day. Gradually changing from coarse roughage to good-quality feed will get the horse ready for 18 to 19 pounds of grain and 16 to 18 pounds of hay a day. That is about what a horse at heavy work, such as disking and plowing, needs.

It is much the same with the work. You have to put a horse in condition slowly. It is a matter of increasing the work a little at a time, so the muscles will get hardened. This gradually develops strength for the heavy work.

But remember, after a long rest, a horse is more tender than it will be after it gets used to working again. Until the muscles harden and the winter hair sheds off you should give special attention to the shoulders.

See that the collar fits right, but not tight. Proper fitting of the collar and harness goes a long way toward doing away with sore shoulders.

After the day's work is done, clean the shoulders carefully.

Before the day's work is begun in the morning, clean the shoulders carefully. When you take off the harness, wash the horse's shoulders with warm water and castile soap. Rinse with cold water with a little salt in it. -------(As if interrupted) Yes? ----- "How long would I keep that up?"

Oh, you can stop after two or three weeks. But, of course, careful grooming of the horse and cleaning its collar every day are always needed. You never leave that off.

You also will find that a little time given to looking after the shoulders of the horses in the field during the early spring is time well used.

It is a good idea to lift the collar often and clean the sweat, and dirt, and dead hair from both the shoulder and the collar. Lift the collar forward on the neck and leave it there for a few minutes. That will give the shoulders a chance to cool off. It is especially important that the neck and shoulders of a horse be cleaned and given a chance to dry and cool off during the noon hour.

But I'd suggest that you write for Farmers' Bulletin No. 1419. It is on "Care and Management of Farm Work Horses" and tells how to fit them for work as well as a number of other things which will help to make them work better, pay better, and live longer. You can get the bulletin from the United States Department of Agriculture at Washington, D.C.

******

ANNOUNCEMENT: Did you get that? The bulletin on "Care and Management of Farm Work Horses" is Farmers' Bulletin 1419, published by the U.S. Department of Agriculture. Copies can be obtained by writing either to Radio Station ---------- or by writing direct to the U.S. Department of Agriculture, at Washington, D.C.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM

Tuesday, February 19, 1929.

NOT FOR PUBLICATION

Poultry Meeting No. 21: Accreditation and What It Means.

SPEAKING TIME: 8-1/2 Minutes.

ANNOUNCEMENT: This is the Poultry man from the U. S. Department of Agriculture, isn't it? --- We're just waiting the meeting on you -- just a moment -- (Rapping as if for order) - The Farm Forum will be in order! -- Our speaker is here now -- He is going to tell us about accreditation -- (as if interrupted) -- What's that? -- "What does it mean?" -- That's what he is going to tell you now -

****

The inspection and approval of commercial hatcheries and breeding flocks is what we mean by accreditation.

Accreditation is in force in most States now. The movement is growing fast. Many of the States which haven't yet started are making plans to get into it; to take up this accreditation of breeding flocks and hatcheries.

But I know that some of you are saying to yourselves: "What has that got to do with raising chickens on the farm?" I suppose most of you here either raise chickens as a side-line on a farm or have comparatively small poultry flocks. And I venture to say that a good many of you buy baby chicks.

Well, this accreditation work, you might say, is the result of the fast growth of the baby-chick business during the past few years.

Commercial hatcheries are now the seed beds of stock for the general farmer. If only healthy chicks of selected flocks are produced at the commercial hatcheries, there may be a big improvement in breeds and in quality of stock on farms throughout the country. That should mean healthier, better-producing chickens on the farms and in commercial flocks.

On the other hand, if the wrong kind of chicks are produced at commercial hatcheries, the buyers of baby chicks will be losers. And so will the public generally. Accreditation of hatcheries has become important so that the buyer of chicks will know that high-quality eggs were used in hatching and that sanitary conditions have been kept up at the hatchery.

And, as you know, many hatcheries get their eggs from a great number of breeding flocks. In order that chick buyers and the hatcheries may be protected as to the quality of the stock they buy, breeding flocks must pass inspection as to their health and quality -- (As if interrupted) -- What's that? -- "Requirements?" --- You mean the requirements for accredited flocks?

Well, one of the requirements is that accredited flocks be purebred. So many flocks of farm chickens are of mongrel breeding that introducing purebred stock represents a big step forward toward better quality. Accredited flocks must not only be purebred but they must show some evidences of quality as well. The males must be especially selected and they should be of improved breeding.

Another essential for an accredited breeding flock is vigor and health, at least as shown by the looks of the chickens. No matter how highly stock may be bred for production, it is likely to be of little value in improving flocks unless it is carefully selected for vigor.

And in addition to the physical examinations, in many accredited flocks specific tests for certain diseases are made.

Accredited flocks are also improved for egg production by culling out poor producers and by using roosters from high-producing flocks. Selected for production that way, the egg-producing qualities of such flocks should be much better than the average farm flock. Chicks from accredited flocks will therefore improve egg production in farm flocks. That means putting more cash in the farmer's pocket.

Many farmers don't give their chickens enough attention to get high egg yields. But stock bred to lay will lay fairly well in spite of indifferent care. In certified flocks, which is the next step above accredited flocks, still higher egg production is obtained. Only pedigreed males out of high-producing stock are used to head certified flocks.

And, of course, sanitation is an important phase of accreditation work. Flocks must not only be free from sickness and from weak chickens, but must be kept under the best conditions of management. Clean houses, clean land, and clean stock go with accreditation work. In order to prevent the spread of disease far and wide, it is very necessary to have sanitation in the hatchery. ----- (As if interrupted) What's that ------- "Would I mind repeating"-----

Of course not. First, the chickens: The chickens in an accredited flock should be all of a color, should be of good type, and representative of their breed. They should have first-rate vigor and should be free from disease. And they should be good producers.

Second, the eggs: The eggs from an accredited flock will be above the average in color and size. Accredited hatcheries usually refuse to take eggs that don't weigh at least an ounce and seven-eighths apiece.

Third, the houses, and equipment and management conditions: In an accredited flock, they will be much better than those in the average farm flock.

And fourth, the poultryman: The owner of these accredited flocks you'll find is either a specialized poultry keeper or a more progressive farmer or a farmer's wife who takes a special interest in chickens. Accreditation makes better poultrymen as well as better poultry flocks.

Most of the regulations are similar in the different States. But there is enough difference to make trouble and to cause confusion in the minds of the general public. It would be a big help to the chicken and egg business as a whole if uniform terms and regulations for accreditation should be adopted.

However, accreditation has already shown what it can do. Big improvement in the standard qualities of the hatchery flocks has been brought about. Disease has been cut down. The size of the chickens has been increased. Better egg-producing flocks have been developed. Better sanitation and service in the hatcheries have been demonstrated. Baby-chick mortality has been reduced and the general public has been given more confidence in the buying of baby chicks.

****

ANNOUNCEMENT: This time next week we'll talk about hatching turkeys and ducks and geese. In the meantime, however, don't forget the other Farm Forum meetings. Tomorrow is our crop day, Thursday is our dairy day and Friday we will look into the question of farm loans.

#####

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM (Region 1)

Wednesday, February 20, 1929.

NOT FOR PUBLICATION

Crops and Soils Meeting No. 21a: Corn and Its Uses.

READING TIME: 8-1/2 minutes.

ANNOUNCEMENT: Most of the members of our Farm Forum raise some corn. In fact, most of us raise a good bit of it. For that reason, our program committee decided we should have a general picture of corn and how it is used. Today we have with us a specialist from the United States Department of Agriculture who will tell us about it.

****

After breakfast this morning.-----

After I had eaten a stack of corn cakes, I took out my old corn cob pipe.

I got to thinking what I could say to corn farmers about the uses of corn. Of course, I knew that you knew that our two billion dollar corn crop is the most valuable crop we have. Fact is, 20 to 25 per cent of the total value of all our crops is represented by corn. Corn covers 25 per cent of all the cultivated acreage in the United States. During the last ten years, we've produced an average of nearly three billion bushels a year.

We haven't sent much of it abroad. Only about an average of a little over 1-1/2 per cent leaves the country.

"Just where does all our big corn crop go?" I asked myself.

Then I thought, "Why it doesn't go anywhere. It stays right down on the farm." That's right, about 83-1/2 per cent of all the corn raised never leaves the farm; until it leaves in the form of livestock or livestock products.

Fact is, 40 per cent of the entire corn crop is eaten by hogs on farms. Horses and mules take 20 per cent. Cattle eat 15 per cent. Chickens get 4 per cent. And sheep get 1 per cent.

That was figured out some years back. Of course, those are rough figures. The percentages vary from year to year. When the corn crop is big, more of it is fed to hogs. As you can feed hogs up to market weight quicker than most animals, the number of hogs varies more nearly with the corn crop than anything else. When corn is scarce, a cut in the number of hogs soon shows up.

Any hog raiser should take those changes into consideration when he is planning production. That hog-corn ratio, as they call the comparison of the price of corn with the price of hogs, is very important.

Last year, feed prices were high, but even so, cattle feeding paid. The supply of cattle changes more slowly than hogs. And the swings up and down last longer -----

But to get back to corn. Less than 20 per cent, 16-1/2 per cent are the figures, of the corn raised in the United States ever leaves the counties in which it was raised.

When you are dealing with such a tremendous thing as our corn crop, even a small percentage runs into sizable figures, however.

During this last season manufacturers used over 85,000,000 bushels of corn. Of course, you are all familiar with a number of the products manufactured from corn; such as corn starch, corn syrup, corn sugar, gluten feed and meal, and the like.

But in tracing down what becomes of our big corn crop, let's take a grain of corn--- I have one here in my fingers --- Now, I take this knife --- and I peel off the thin outer covering -- it is mostly fibrous material. Now you see we have here the main part of the corn kernel. That is a mixture of starch and gluten.

Now then let's split the grain. Maybe you can't see it, from there, but here at the pointed end of the corn kernel is the germ. Of course, it is partly fiber and some gluten, but it is mostly oil.

That germ may be small, but it is very important. It contains most of the oil in corn, and is slightly lighter than the other parts of the corn. That makes it easy to separate in the process of manufacture.

The corn is given a softening bath. Then the softened kernels are passed through a mill which tears them apart. The whole mass of coarsely separated corn kernels is passed along to tanks. The germs, being lighter, float on top of the starchy water, while the rest of the corn sinks lower down in the water. The stream which overflows at the end of the tank, contains only the germs.

Those germs are thoroughly washed, and dried, and ground, and then put under heavy pressure to squeeze out the oil. What is left is the "Corn Germ Meal" which is used as a cattle or hog feed.

From a bushel of corn, the manufacturers can produce about 1-1/2 pounds of corn oil. That corn oil is used as a cooking or salad oil. Or you may meet up with it under a number of strange disguises, and never guess you're dealing with corn.

Some of the soap with which you wash your hands may be partly corn oil. From corn oil a gum is extracted which is used to make "red rubber" sponges; or that eraser on the tip of your pencil may be partly from the germs of corn grains.

But the biggest part of the corn kernel is mainly starch. As you all know, corn starch is used in pies, and puddings, and in the making of baking powder and candies, laundry starch and sizing for yarns, and in the manufacture of paper as a filler. It is also used for cosmetics and high explosives.

From corn starch we also get corn syrup used as a table syrup and in ice cream, preserves, and a number of other confections.

Carrying the process a little farther, we get corn sugar used for baby feeding, bread-making, fruit canning, and so forth.

Then, too, corn sugar is used in the tanning industry and in making vinegar and in the manufacture of fibre silk.

Dextrin, another corn sugar product, is used in the textile industry for strengthening and finishing cloth, carpets, twine, and so forth. For thickening colors, for calico and other printing, for gums, and glues, ink, mucilage and adhesives, and in the fireworks called "sparklers."

The gluten from the body of the corn kernel is used for vegetable glue, vegetable casein, and comes back to us also as valuable feed for dairy cows, beef cattle, hogs, and poultry. And from the hull of the corn kernel we also get bran for feeding.

We also make some use of corn cobs and corn stalks, but the chemists are still looking for important uses for those parts of corn. During the last 4 or 5 years effort has been directed toward making building board from corn stalks, and experiments have been made in using cobs for motor fuel.

But you all know, that many of us in the Corn Belt are now driving our automobiles on corn. For as the saying used to be; More corn, more hogs, and more hogs more money.

****

ANNOUNCEMENT: That concludes today's Farm Forum Meeting. Tomorrow the dairy section of the Forum meets.

###

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM (Region 2) Wed. Feb. 20, 1929.

NOT FOR PUBLICATION

Crops and Soils Meeting No. 21b: American Rye Markets

ANNOUNCEMENT: The Farm Forum will be in order! ----- Today we have a grain market expert with us from the U.S. Department of Agriculture. He is going to tell us about rye ---- He is going to give us a general view of the production and marketing of our rye in relation to the rye grown in other parts of the world. Maybe he'll tell us what makes the prices for rye ------- All right, Mr. Specialist -

******

Certainly, I'll tell you what makes the prices for rye.

Our domestic prices are largely determined by the supply of rye and wheat in other countries.

When you consider where most of the world's rye is raised, it isn't hard to see why that is..

Our rye belt here in the United States extends across the lake states about 300 miles north of the winter wheat belt. Of course, unimportant amounts of rye are grown south of that, but that is produced mostly for forage.

The chief rye producing states are North Dakota, Minnesota, Wisconsin, Michigan, Nebraska, and South Dakota. Add Pennsylvania, Indiana, Illinois, South Dakota, Montana, Colorado, and North Carolina and you have the States which produce over 80 per cent of the rye acreage in the United States.

Our mills in this country take the best types of rye to make flour. The poorer grades go abroad.

Now, before the World War, that didn't amount to much. Our exports didn't amount to much. In fact, we grow but a little over two per cent of the world's rye. Before the World War, about 95 per of the world's rye crop was grown and eaten in Europe. Russia, Germany, and Austria produced about 83 per cent of the world's crop. In fact, Russia alone produced considerably over half of the world's crop.

As I said, we were not exporting much. Russia, Germany, Poland, Czecho-Slovakia, Austria, Scandinavia, Finland, the East Baltic States, Belgium, and Holland all raise more rye than they do wheat. What we export goes either directly or indirectly to countries which are themselves big producers of rye.

When the World War came, particularly after 1915, when the allies couldn't get their usual amount of rye from Russia, the world's greatest producer of rye, they turned to North America for supplies of rye. Our rye exports jumped immediately. They kept going up during the war. Since 1920-21, however, they have tended to go down. In 1922 and 1924 there was a shortage of bread grains in Europe and Russian exports of rye were at their lowest ebb.

Considering the smallness of our crop, before the World War, distillers in this country took substantial amounts of our rye to make alcoholic beverages. Prohibition practically wiped out that demand. So you see, at the same time our foreign demand was increasing and home demand was decreasing. The export market has become more and more important to and outlet for our rye.

Remember, however, all this time the world has not been eating any more rye. Remember, the world's total production has been practically at a standstill for many years. The changes in production have been caused by different people growing and marketing rye. As production and exports have fallen off in one country, they have increased in another.

Now then, what of the future? The big question in the future market situation for rye as it will be for wheat is whether or not Russia comes back in the export field.

Since 1922, our rye acreage has gradually declined but our exportable surplus has been moving comfortably into European importing countries. But that is largely because of the delay of Russia in re-entering the export field.

Then too, trade reports indicate that rye shipped into Europe from the United States has been of disappointing quality to the importers. In many cases, American rye has sold for five to six cents a bushel less than European grown grain. Although the average of our rye may be just as good quality as ryes produced in Russia, Poland, and the Danube countries, our better grades of rye are kept in this country, because of the premiums paid by our home mills. It is mainly our lower grades which go into export channels.

So you see, the market for our rye depends not only on the quantity of rye in other countries but also on the quality of our rye and the rye with which it must compete in Europe. -------(<u>As if interrupted</u>) Just a moment ----- The man over here has a question ----- Now ------ How about Canada?"

Well, the type of rye produced in Canada is much the same as that grown in the United States, although the average yield is a little heavier. On account of the bulk of the Canadian acreage being placed in wheat, rye hasn't rached the position it occupies in the United States as a rotation crop or for forage.

Of course, the World War stimulated the planting of rye in Canada as it did in the United States. Production has followed much the same course as in this country.

Feeding rye to domestic animals is probably carried on to a greater extent in Canada and Canadian distilleries also provide a further home outlet for Canadian rye. However, the Canadian demand for both those uses won't take care of any appreciable amount of the total crop. The bulk of the crop will undoubtedly continue to be offered in competition with other exporting countries. ----------
(As if interrupted) You have another question? --- Yes? -----
"South America?"

Oh, no. Not much chance of competition from South America. Some parts of the southern hemisphere are adapted to growing rye. Argentina, in particular, could raise a large amount of rye; but she is not likely to do it. There is little domestic demand for rye down there. Countries in that part of the world will probably keep on cutting out the growing of rye in favor of wheat.

No, the big factor in the world's rye market is Russia. Although Russia lost some rye producing territory in the Baltic region, she still produces about one-half of the world's rye crop. Prices for American rye in the future will largely depend on how much rye Russia exports and, to some extent, on the quality of the rye we export.

******

ANNOUNCEMENT: At tomorrow's Farm Forum meeting we will take up the question of the care and feeding of the dairy bull. Friday, our subject for discussion will be farm loans. Remember, please, we hold these Farm Forum meetings every day in the week except Saturday and Sunday.

##

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM REGION 3 Wednesday, February 20, 1929.

NOT FOR PUBLICATION

Crops and Soils Meeting No. 21d: Uses for Cotton

SPEAKING TIME: 8 Minutes.

ANNOUNCEMENT: The Farm Forum will be in order! -- As most of our members know, Congress appropriated some money to find out how cotton is being used and can be used. The Departments of Agriculture and Commerce were authorized to make investigations along that line. Today we have with us a man from the U. S. Department of Agriculture who will now tell us some of the things which have been found out about the uses of cotton ----------

******

The old saying is that "a hint to the wise is sufficient." Here is a hint to cotton growers.

Figures we've gotten together during the past two seasons show, that the biggest demand for cotton from our American cotton mills is for American cotton of Middling and Strict Middling grade from 15/16 to 1-1/16 inches in length. And that may also be true of the world demand. We have practically no foreign competition for the supply of those lengths.

In other words, cotton growers in this country have a chance to boost their income by producing cotton of the grade and staple which is most in demand.

On the other hand, by producing too much cotton 7/8 inch and less, we are getting into competition with growers of short cotton in the Orient. Take advantage of the opportunity. Produce the better staples, which growers in other countries have not yet put on the market in big enough quantities.

As you all understand, there is cotton and cotton. In fact, it is possible to distinguish more than one thousand differences of quality for the cotton of a single crop in the United States. In the normal crop, however, there are usually about six hundred different qualities. The Department of Agriculture has actually established 32 standard grades and 24 staple lengths for upland cotton.

Of course, for a number of uses, one of those grades can be substituted for another. For many uses, however, the spinners need certain definite quality cotton. Cotton of a very different grade or staple length won't do. So you see, we must learn to think in terms of quality. Practically speaking, we don't have just one big cotton crop, but we have a number of different quality cotton crops. For instance, if you raise extra short staple cotton, your crop must compete with cheap cotton crops grown in India. If you raise one inch staple Middling or Strict Middling grade, you dodge into a market where you don't have that competition, and where the supply is comparatively small, and the demand big.

That is just one of the things which have come out in the studies. That shows the American grower a good chance. It also illustrates how in looking for uses of cotton we have to consider many kinds of cotton.

Now we've found, in tracing down cotton, trying to make a bigger market for it by finding new uses or enlarging the old uses, that more than a quarter of a million bales of raw cotton and cotton waste go into making cotton bags in this country every year. Wholesale grocers use 200,000 bales of cotton that way each year. The interesting thing, however, is that the wholesale grocery trade could use 600,000 bales instead of 200,000 if they used cotton instead of jute bags and bagging.

We've looked into the fertilizer business to see if fertilizer manufacturers could use more cotton. Only a small percentage of fertilizer is now put up in cotton bags. Cotton bags now cost more than the burlap bags, but a number of the fertilizer manufacturers say they prefer cotton bags, because they make more attractive packages, the marking shows up better on them, and they can better use them over again. The fertilizer industry could use 170,000 bales of cotton for bags.

Other businesses could also use more, we've found. Rice now uses 500 bales, but could use 11,000 bales. Cement uses 45,000 bales now, but could use 115,000 bales. The flour business uses 115,000 bales, but there is a chance of expanding the demand there to 200,000 bales. We plan to keep up the studies of the use of cotton bags in the various trades until we have covered all important trades.

We have also made tests of cotton bagging as a wrapping for cotton bales to see whether cotton could be used instead of jute or burlap for cotton bales -------(<u>As if interrupted</u>) Yes? ---"Cheaper," you say. Yes, the jute bagging ordinarily costs less than cotton bagging, and cotton is sold on the basis of gross weight instead of net weight.

But there are several advantages to using cotton bagging. Even the lightest weight of four different weights we tested stood more wear than either two-pound jute bagging or burlap covering. Then, you see, cotton bagging can be made from the lower grades and staple lengths of cotton. And its use would cut down transportation and

insurance charges. Not only that, but less cotton lint sticks to cotton bagging than to jute bagging. There would be a saving there.

Among the other studies we're making is an investigation of the effect of the up-and-downs in the supplies and prices of other fibers on the use of cotton. We are also looking into the present and possible future competition of other fibers with cotton.

As a means of enlarging old uses and discovering new ones, we first have to know how cotton is being used now. We need to know the quality and quantity of cotton needed for various uses, and where the different uses of cotton are headed.

When we have all such information, we may be able to bring about a better adjustment between the quantity and quality of cotton grown. We may be able to offer new ways of using cotton.

Such an adjustment and extension of uses should mean better times for all engaged in the business of growing cotton. In fact, it should mean better times for everybody in the cotton business.

*****

ANNOUNCEMENT: Tomorrow our Farm Forum will take up the question of care of the Dairy bull. Friday we'll hold our usual meeting and talk over this matter of credit and borrowing on the farm. This time next week, we'll see if we can't prevent the barn burning and other farm fires.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

THE FARM FORUM

Wednesday, February 20, 1929.

Region 4

Crops and Soils Meeting No. 21d: Overproduction of Fruits and Vegetables.

ANNOUNCEMENT: Members of our Farm Forum want to know what is happening to fruits and vegetables. A lot of us have been getting lower prices for crops. They blame it on "overproduction" ---- Well, today we have asked a market specialist of the United States Department of Agriculture to tell us why that is ----- Here he is -------

****

Potatoes are a good example of what is happening -- in the case of a number of fruits and vegetables.

The real demand of this country for potatoes is around 400 million bushels. When we grow many more potatoes than that, prices drop on the whole potato crop.

Year before last, we grew only about 350 million bushels. That crop brought a nice profit to the grower. Last year, the crop was about 400 million bushels. The supply was just about equal to the demand. Efficient growers made a profit. This year, however, the crop amounted to over 460 million bushels and prices are disastrous for everybody -------- "What's the reason for that overproduction," did you say? -------

Well, overproduction of fruits and vegetables is due to one of two things; either too big an acreage or too big a yield to the acre, or both.

Naturally, market prices affect fruits and vegetable acreages differently. Apple and citrus trees for example, take seven or eight years to come into profitable production. Peaches and plums take four or five years, grapes a little less. And it not only takes time but money. Fruit trees are in the nature of semi-permanent investment, and often add tremendously to the value of the land. That increase is expected to offset the investment in the trees while they are coming into profitable production. The time and investment needed to bring trees into production keep fruit growers from changing to other crops when oversupply threatens. Even a series of years, disastrous on account of overproduction, won't cut down the acreage much.

Growers feel their investments are too big to be sacrificed. They hope that frosts and other unfavorable conditions may cut the total production the next year; or that there will be more demand for that particular fruit; or that other growers will be forced out of the business first. They are apt to resort to mortgages to enable them to keep going. And the

banker or money lender who becomes a partner in the business is even less willing than the owner himself to approve a reduction of acreage which the oversupply demands.

Vegetable growers, on the other hand, deal mostly with annual crops. There is no long time investment, such as there is in an orchard. The grower is not bound to produce the same crops this year he produced last year. He is much freer to change from one crop to another. That means, that vegetable acreages change from year to year much more than fruits can change.------(As if interrupted from audience) What's that? ---- What is causing overproducing now?

Well, during the last few years, there has been a great deal of exploitation of vegetable producing sections. Vast areas formerly given over to grain and livestock have been brought under water and made available for truck growing. Whole communities have jumped into sudden prominence in the production of one or more truck crops, and then gone almost bankrupt in a year of crop failure or of overloaded markets. That is still going on in some sections of the country. Spinach, cabbage, and tomatoes, and leafy vegetables in some of the newer regions are examples of that. As long as that exploitation of new vegetable acreages by real estate promoters goes on, overproduction of some of those crops is inevitable.

Now, in the case of grapes and some fruits, the abnormally high prices during the war and just after the war are chiefly responsible for the big increases. Those high prices shoved up the values put on orchards and groves and vineyards. At the same time, prices on most other farm crops fell. And, of course, the value of the lands on which those other crops were produced also fell.

Fruit land being more valuable than other crop land caused those already growing fruit to increase their acreage. Not only that, but it caused growers of less profitable crops to plant big acreages to the fruits which had shown the biggest profits.

And, as in the case of vegetables, the new high acreage values of the various fruits stimulated the exploiters. Looking for their profits in the sale of real estate, and not in the sales of fruit, they added still more to the acreage; until the total reached a disastrous size.

Stock was taken and the exploitation was checked. But much of that acreage has come into bearing during the past three years. So you now see growers of grapes, and lemons, and cling peaches for canning and prunes struggling with a serious problem in overproduction. In the next year or two, pears, apricots, and grapefruit will probably be in the same fix. (As if interrupted from audience) How's that? ----- "bigger acre yield" ----

Yes, that's another important factor in overproduction of fruits and vegetables. There has been more general application of scientific knowledge to those crops. Take potatoes, for example.

During the last five years, the average yield of potatoes to the acre has been about 115 bushels. That's about 15 per cent above the yields for the five years before that. Those higher yields are largely due to the more general use of certified seed. But the possibilities of still further increases, due to greater efficiency, make up one of the real agricultural problems.

There has already been a sharp cut in new plantings of most fruits. Promotional development of truck lands seems to be on the decline. Co-operative marketing organizations, State departments of agriculture, extension services, and the banks that are directly affected by the prosperity of fruit and vegetable growers are lending their influence to prevent further expansion of acreages.

However, if the efficiency of production keeps increasing, as it has during the last few years, production of many fruits and vegetables will continue to run ahead of consumption for sometime to come, even if the acreages remain where they are. Fruit and vegetables growers are suffering from "galloping production".

****

ANNOUNCEMENT: Tomorrow our Farm Forum will talk about how to feed and care for a dairy bull. That's an exciting subject sometimes. Then Friday we are going to discuss Farm Loans. That's always an exciting subject. Farm Forum members should be on hand promptly tomorrow and next day if they want to get ring-side seats.

###

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM (Region 5) Wed. Feb. 20, 1929.

NOT FOR PUBLICATION

Crops and Soils Meeting No. 21e: Federal Alfalfa Hay Standards

Speaking Time: 8 Minutes

ANNOUNCEMENT: Hey! -- You alfalfa growers come to order! --- This Farm Forum is supposed to be in order! ------ We have a hay expert from the U. S. Department of Agriculture with us. He says we don't need to have all these rows we've been having. He says the thing to do is to market on Federal grades. I asked him how that was going to help us. He says--- but I'll let him tell you what he says--- Mr. Expert, what's the good of selling on Federal standards? --- How is that going to help?

*****

Well, the farmers in our section have probably been growing alfalfa a little longer than you have around here. We've marketed alfalfa hay with a and without - the Federal standard grades. Maybe if I would just tell you our experience, you could see how they help keep down disputes and reduce the number of rejections ---- yes, and how they have meant more money to us.

I remember, Ed Miller telling a bunch of us down at the station about a dairyman ordering a car of good dairy alfalfa from him. Ed shipped him the best he had. But the next time, I saw Ed he was hopping mad. That dairyman said Ed's hay wasn't any good for dairy cows. He wanted Ed to discount the price $3.00 a ton.

Well, Sam Jones and Henry Loftus were standing around there too. They both joined in the cussing. It was a regular anvil chorus. Sam told about a hay exchange inspector grading a carload No.2. that Sam insisted should have been graded No. 1. The difference in grade meant $2.00 a ton less than Sam figured on getting. "I've got a hunch," he said, "that these dealers quote good prices for No.1 to get fellows to consign hay to 'em and then get the grade fixed at No. 2, so as to get it cheaper."

"Huh," Henry Loftus grunted, "You fellows have got no kick coming! What makes me sore is that most of the time I don't get any more money for my high quality alfalfa than some of you fellows get for low grade stuff. I always cut my hay in early bloom. I rake and

handle it before it is overdried, so as to save the leaves. I sweat it in good stacks. And I bale it with plenty of clinging leaves. You fellows know a lot of hay round here ain't put up that way."

We had to agree that that was so, and that the buyers paid according to the average quality. In other words, that there wasn't much chance of getting paid according to the real grade of the hay, if you had extra good hay.

"That's not the worst of it with me," Ed Miller put in, "The bank is getting tight on loaning money on hay car drafts. The cashier told me just today that the hay shipping business was too full of guesswork to suit him. He says he never knows what grade of hay we are shipping nor what its market value is. He says he is getting sick of troubles over hay drafts and loans to hay growers. I told him hay growers had been sick about it for a long time. But that didn't help me get a loan. He wouldn't credit me with that draft. Said he'd have to collect it first. In the meantime, taxes are due. By the time he makes a collection, I'll have to pay a penalty."

Just about that time somebody said they'd heard the dealers cussing the farmers too. Claimed we plugged the back end of the car with low grade hay and faced the doorways with good hay; and even said we loaded undercured hay that would heat and spoil in transit, and then squealed like pigs when the dealer didn't send back a settlement for No. 1 hay.

Of course, we never did it. At least, none of us in that crowd did it. Somebody may have. It used to be a regular 'dog eat dog' business with everybody trying to slip something over on the other fellow, and nobody making much out of it either. Anyway, there was a lot of misunderstanding first and last.

But while we were about to get in a real argument I remembered hearing that the U. S. Department of Agriculture had a set of alfalfa grades being used in other markets. Everybody there wanted to know more about them. They all said they wanted grades we could all understand, and inspectors that were not hired by either seller or buyer. So we appointed a committee right then and there to look into the Federal grades.

Well, the upshot of the whole business was that the official U.S. hay grades were adopted as the common basis for trading. Under agreement with the U. S. Department of Agriculture, inspectors were hired who were trained by the Department and licensed to grade hay by means of the official standards, for anybody who asked for the service and paid a small fee --------(As if interrupted) How? --"How did it work?"

Fine. Nowdays you can go to that section and you'll find a bigger and better hay business, and not nearly so many disputes. All the

quotations, offers, and confirmations are made on the basis of the U.S. grades. Farmers are raising more high quality hay and getting a premium price for it because the buyers have confidence in their stuff.

Some of the farmers and shippers sell f.o.b., with shipping point inspection, and claim they get wire orders from dealers and feeders in places where they never tried to ship hay before they were able to guarantee Federal Inspection.

The farmers and shippers in that section say they would never go back to the old ways of marketing hay. Under Federal grades they get paid according to quality. Under Federal grades, they have reduced the number of disputes and rejections. They can now consign hay with a better prospect of a fair settlement. And, not only that, but the Federal grades attract the best and most responsible dealers and consumers to the hay crop ----- As if interrupted) ---What's that? --- "How would you go about it?" --- You mean to put Federal grades in use in your section?

Well, you might ask your local Chamber of Commerce or your State Department of Agriculture to get in touch with the U.S. Department of Agriculture and get some literature and advice on the subject. I wouldn't be a bit surprised, if the Department would send a hay standard expert out here to tell you men how to organize a hay inspection service, if you really mean business.

******

ANNOUNCEMENT: Anyone interested in hay standards and inspections should write to the United States Department of Agriculture or to Station _____

###

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM

Thursday, February 21, 1929.

NOT FOR PUBLICATION

Dairy Meeting No. 21: Care of the Dairy Bull.

SPEAKING TIME: 9 Minutes.

ANNOUNCEMENT: All you men who know anything about handling a dairy bull, come on down front! --- Come on, Ed I guess you qualify -- We want to swap ideas in these Farm Forum meetings --- I've asked this U.S. Department of Agriculture man to tell us what his folks say about feeding -- and also to act as a sort of ring-master in this bull ring today --- Go ahead, Mr. Expert, and take charge --- Ed Morris, over there with his arm wrapped up, can tell us how not to handle a bull ----------

*****

How about that, Morris? --- They tell me you had one of those quiet, gentle bulls. That is, you thought you had, didn't you? You never can tell about a dairy bull. He'll catch you off your guard and start trouble when you are least expecting it.

No, it doesn't pay to trust a bull; no matter how quiet and gentle he has been. And you should never take him out on a public highway that way, unless you can keep him under absolute control at all times. ----(As if interrupted) What's that? -- "What makes them get vicious that way?

Well, bulls generally get vicious through being scared. Be gentle with a bull, and keep your confidence. A quiet manner and a confident voice will do wonders in preventing trouble.

But, as I said, don't rely on the past record of the bull for being gentle. Every bull should be ringed, so he will be easy to handle. Put a ring in this nose by the time he is 8 months to a year old. A copper ring two to two and a quarter inches in diameter is all right at that time. By the time he is 18 months to two years old you need a bigger and stronger ring.

A bull calf should be trained to lead, first with a halter and later with a staff attached to the ring in his nose.

Sometimes a bull's nose is accidently torn so you can't put a ring in it, but you can handle him with a special halter and staff with a little training. And when you buy a bull staff, be sure you get a strong one, equipped with a locking device and a handgrip. A man can handle a vicious bull with a staff after the animal has been properly exercised.

In fact, a savage bull can be tamed to a large extent by exercise every day. And bulls must have exercise for more reasons than one. A bull to be worth anything as a bull must get enough exercise. Because you keep him in a big lot is no sign he will get enough either. Some bulls are too lazy to exercise even with plenty of room -------- (As if interrupted) How's that? ---- "What is the best way to make him exercise?"

One of the best is to have him walk about five miles a day. You can make him do that by hitching him to a revolving exerciser or by yoking him for work about the farm. You can exercise bulls of any age that way ----(As if interrupted) --- "A treadmill," you say? -------

No, a treadmill is not altogether satisfactory for exercising a bull. A bull of one of the larger breeds is likely to hurt his feet on a treadmill. And some bulls just won't walk on the tread. Putting a ram, or a he-goat, or a dog with him doesn't work either.

Some bulls will get plenty of exercise by bunting a strong barrel about the lot or a barrel hung on a cable or by playing in the lot with one or two yearling bulls. Others won't exercise unless they are forced to exercise. And, of course, the amount of exercise needed varies with the temperament of the bull.

You can keep two mature bulls in a lot together, if you exercise them by walking them five miles or more a day. But if they are not given enough exercise, they may get too rough and hurt or even kill each other.

As soon as bull calves are 60 days old, they should be separated from the heifers. Bull calves need more room than heifers. Because they are bigger and stronger, there is more chance of their getting hurt. You should keep fewer of them together. --------(As if interrupted) --- What's that? ------- "What would you feed them?"

Well, you should aim to raise a vigorous, healthy bull. To do that, you need to give them plenty of feed at regular intervals. It will pay you to feed skim milk until the bull is 12 months old, or longer, if you have the milk. -----(As if interrupted) ---What? ----"A full-grown bull?"

In feeding a mature bull, give the strictest attention to the roughage. Feed legume hays, such as alfalfa, or clover, or vetch, or soybeans or cow peas. Five to twelve pounds a day is enough, depending on the size of the bull, of course. But never feed any spoiled or musty or left-over hay. During the summer, green feeds help keep the bulls vigorous and healthy.

As for the grain ration, feed from two to twenty pounds of grain, depending on the size and condition of the bull. Better give the grain in two feedings. And there should always be pure water on hand at all times where the bulls can get it. You can have a strong tank some place in the lot or stall where you can get to it easily for cleaning. -------
---(As if interrupted) --What say? ---"A grain mixture? --- You want a good grain mixture to feed your bull, you say?

Here's one. Try this. 300 pounds of ground oats; 200 pounds of wheat bran, and 100 pounds of ground corn or barley. Some dairymen add varying amounts of linseed meal to that ration ------Oh, you're going to take that down, I'll repeat it. 300 pounds of ground oats; 200 pounds of wheat bran, and 100 pounds of ground corn or barley. If the bull is young and thrifty, you might add more corn or barley. And, of course, you should keep salt before the dairy bull, so that he can get it when he wants it.

And be sure to do everything possible to keep your bull in his quarters. After he has once broken out, it is much harder to keep him in. Fence the field or lot with heavy fencing seven or eight feet high. Posts that project above the top line of the fence may injure the bull. It is best to have the top of the fence level.

Quarters for the bull should protect him from the weather, give him room to exercise, and provide easy and safe means of handling him. The Bureau of Dairy Industry of the United States Department of Agriculture will send you plans showing how to build bull quarters with safety features, breeding rack, and an efficient revolving exerciser. All you have to do is to write and ask for them. You might also ask for "Farmers' Bulletin No. 1412-F. That deals with the "Care and Management of Dairy Bulls."

****

ANNOUNCEMENT: That Farmers' Bulletin is No. 1412-F. Its title is "The Care and Management of Dairy Bulls." You can get it by merely writing for it to Radio Station ---------- or by writing direct to the United States Department of Agriculture, at Washington, D.C. The Department is paid for by the people of the country to serve the people of the country. All it contains and all it has discovered is there for you. USE IT.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM Fri. Feb. 22, 1929.

NOT FOR PUBLICATION

Farm Economics Meeting No. 7: Economy in Farm Borrowing

SPEAKING TIME: 9 minutes

ANNOUNCEMENT: The Farm Forum will be in order! ---- We have a big question before us today. I guess everybody here has some plain and fancy financing to do at times. Anyway, we're glad to give a little time here on Washington's birthday to a man who is going to talk to us about farm borrowing. He is from the U.S. Department of Agriculture — ----- Lend him your ears and he will tell you how to borrow ---

****

Washington's birthday is a good time to talk loans.

George Washington was a good farmer and he knew the farming business of his day.

I recall reading in one of his letters a statement on our subject today. He said that with the exception of two or three well-managed estates, there was scarcely a plantation in the colonies which would yield simple interest.

What was true of most farms then, is true of many farms now. Many of our farms don't pay simple interest on the investment. The farmer should know the cost of credit and he should also consider carefully the return his money is likely to earn when used on the farm. When farm returns are lower than the mortgage interest rate, a loan may become a burden instead of a help. Sometimes a farmer can save money by cutting down the amount borrowed to a minimum, or by not borrowing at all.

But granting that you have considered that phase of the matter, and have decided to borrow or are forced to borrow, we come to the question of what kind of credit you will use.

The most important form of farm credit is the mortgage loan, secured by land. Mortgage loans amount to more than other loans and provide most of the capital used by farmers. But evidently some farmers don't make full use of their chances for saving money by choosing mortgage loan agencies with the lowest rates.

I say 'evidently' because the Bureau of Agricultural Economics has investigated this matter and found a surprisingly wide range of interest costs even in the same section. In the same community where most of the mortgage loans were made at from 5 to 6 per cent, other loans on equally good security were carrying rates of 8 to 10 per cent. Federal Land Banks, Joint Stock Land Banks, and most insurance companies, and many commercial banks, now make loans quite generally at five to six per cent.

Many farmers are accustomed to use high cost credit for operating capital and have no mortgage on their land. Since loans secured by mortgages can usually be had at rates not far from six per cent, it would pay such men to substitute mortgage credit for the expensive short-time credit they are now using.

They could use the proceeds of such a loan for working capital during that part of the year when working capital is most needed. During the slack season the proceeds could be deposited or invested at interest so as to yield a return and be readily available when again wanted.

In financing that way, however, you need to be very careful. If you spend the proceeds of loans for purposes which will not add to the net return at the end of the year, you may find yourself deeper in debt, even if you did borrow at a low rate.

As far as possible, make long-time loans when interest rates are low. You may even be warranted in taking up an old loan before it is due, and replacing it with a new loan at a lower rate. For example, early last year, interest rates on the central money markets were very low. Since than, general interest rates have become higher. A number of lenders on farm mortgages have raised their rates. So you see, you can sometimes save money by borrowing at the right time. ------(<u>As if interrupted</u>) Beg pardon? --- The gentleman over here on the right has a question --- Yes?

"Suppose you can't borrow from the bank?" ---------- Well, occasionally the bank does refuse loans because a farmer doesn't have an account in the bank. Sometimes, he doesn't ask the bank for a loan until an emergency comes up. Heavy demands from regular customers, who face the same emergency, may keep the bank from taking care of the new applicant.

And, of course, the banker may not consider the farmer's credit quite strong enough. But many farmers who can't borrow from banks, could strengthen their credit position by improving their farming methods or by adding other lines, such as poultry or dairying to supplement the main crop.

However, some farmers do not even know the banker, and the banker doesn't know them. It is a good idea to form banking connections,

so you can borrow when you need funds and where you can get the lowest rates.

And let me say this --- and this is very important --- Begin to arrange credit lines early in the season so you will have funds available in time to buy the supplies you need ---------- (As if interrupted) ----------What say? ------ "How about merchant credit?"

Why, merchant credit is nearly always by far the most expensive form of farm credit. In the South, merchants usually add from 10 to 20 per cent to the cash price. When figured on a yearly basis, that makes 25 to 30 per cent.

Say a farmer buys a bill of groceries which would cost one hundred dollars cash. He buys on time, and the merchant adds ten per cent to the bill. At the end of four months, he pays the bill, $110. In other words, he has paid $10 for the use of $100 for one-third of a year, and the money has cost him at the rate of 30 per cent a year. That's three or four times the interest rate for money borrowed at the bank.

Farmers often overlook the high cost of merchant credit, because of the small size of individual purchases. And the merchants make much less profit by selling on time than is often supposed. Handling and collection costs and losses on accounts which are never paid, cut down the merchant's profit. By using that type of credit, however, the farmer who pays his account at the store is helping pay for his competitor who fails to settle his account.

Whenever you can, arrange to get the credit you need in the form of cash loans from banks or other sources, where the charge is usually much lower than at the store. Much of the American farmer's annual interest bill of at least $600,000,000 could be saved by proper planning. Plan your loans. Select the most suitable type of loan. And choose a lender who will charge a low rate of interest.

*****

ANNOUNCEMENT: This time next week we will talk about who pays for the roads. In the meantime, we will have Farm Forum meetings, everyday except tomorrow and Sunday.

###

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM (Regions 1, 2, 4 and 5) Monday, February 25, 1929

NOT FOR PUBLICATION

Livestock Meeting No. 22a: Crops for Silage

SPEAKING TIME: 8-1/2 Minutes.

ANNOUNCEMENT: The Farm Forum will be in order! -- We have with us today a silage expert from the United States Department of Agriculture. He is going to tell us what crops make good silage --- All right, Mr. Expert -- What crops can we use for silage?

******

Almost any crop can be made into silage successfully.

However, there is a lot of difference in the value of the different crops you can use.

Some crops that make first-rate silage produce such a small tonnage, it doesn't pay to use them.

Other crops produce a big tonnage but have low feed value or else the stock doesn't care for the silage or just won't eat it.

In deciding upon a crop for silage purposes, you want to consider the tonnage and the feed value and whether or not the stock will like it.

The general experience has been that the grass-like plants such as corn, and sorghum, and the small grains are most likely to make good quality silage. In actual practice, there has been a lot of bad-smelling, disagreeable-tasting silage made from alfalfa, and soybeans, and clovers, and the like. But the chances of spoilage are greatly reduced if proper precautions are taken in the making.

Regardless of what crop you use, you should cut it fine and pack it thoroughly to prevent spoilage. ----- Yes, I know ---- good results have been had putting corn in without packing, but that's not safe in all parts of the country.

Moisture has a good deal to do with the quality of the silage. If the crop is very juicy from being cut young, you should let it wilt for a few hours before ensiling. That's especially true for legumes. And if too dry due to over maturity or too much preliminary drying, add water to it while you are filling the silo.

Too much water makes a sloppy, bad smelling silage, while too little may result in moldy silage.

The crop which makes the best silage, of course, varies with climate. A crop best suited to silage in one section, may not do well in another, due to difference in moisture and temperature.

Where corn can be grown successfully, it makes the best silage. It is easy to handle. It produces a satisfactory yield. It has high feed value. And the stock like it just as well or better than they do other kinds of silage. -------(As if interrupted) ----- What say? Will I? --- Sure, I'm always glad to answer questions ----- "What variety?"

Well, as there is an increase in the feed values of corn up to maturity, it is best to plant a variety that will practically mature before frost. The variety that is commonly grown for grain in a particular section is likely to be about the best variety for silage purposes. True, the late maturing varieties give a bigger tonnage, but they have lower feeding value and are likely to be less palatable.

As a general rule, never put corn in the silo until the grain is well dented; or, in the case of flint corn, until it is well glazed. At that time, most of the leaves, except a few of the lower ones, will still be green and the plant will have about the right amount of moisture for best results.

Sorgos, or sweet sorghums, such as red amber, sumac, and honey, and grain sorghums such as kafir, milo, feterita, and Sudan grass are well suited for silage. For best results, the sorghums should not be harvested until the seeds have hardened. At that time the foliage will be green and the moisture content about right. If you harvest sorghums too early, you are likely to get an acid silage. ----- (As if interrupted) What? --- "Grasses?"

Well, there are few sections in this country where grass grows that you can't get a bigger tonnage from other crops that can be used for silage.

A fair quality of silage can also be made from the millets, if ensiled when the seed is nearly mature. But millets are seldom used, because they are readily cured for hay, and, as a rule, don't produce the tonnage you can get from corn, or sorghums, or sunflowers -----

Where summers are too cold for corn, Russian sunflowers have been used for silage a good bit in recent years. You find that cattle don't take to sunflower silage at first. But after they get used to it, they eat considerable of it and do well on it.

Wheat, barley, oats, and rye are sometimes put in the silo where corn doesn't thrive. The animals like it all right though it is not equal to good corn silage. Where the climate is cool and moist, mixtures of small grains with vetch or peas give good quality silage and satisfactory tonnage. ------(As if interrupted) Yes? ---- Yes, that's what I said. Alfalfa doesn't lend itself well

to silage making. Under reasonably favorable conditions, alfalfa can be made into hay at less expense than it takes to make it into silage.

However, as I said, it can be done, if it is done carefully. Much of the trouble with alfalfa silage seems to have come from it being put into the silo with too much moisture in it. The results are most likely to be satisfactory if cutting is delayed until the alfalfa is in full bloom.

With proper precautions good silage can be made from soybeans, but as a general practice, I wouldn't recommend using them alone. Combined with corn, however, soybeans can be used to make a first-rate silage, of high-feeding value and one the animals like.

Sweet clover has been used more for silage than the other legumes and generally with better results. Silage has been made from red clover, but that is a risky practice. Results are seldom satisfactory in a practical way. If you have to put it in the silo to save the crop on account of bad weather, mix it with grasses and tramp it carefully.

And in using any legume, be careful neither to cut it too soon, when there will be too much moisture in it, or too late, when it will be so woody that there will be considerable waste in feeding.

At times, silage is made from the waste from pea and sweet corn canneries; from beet tops from sugarbeet growing districts; and from sugar cane waste. Such silage is not equal to corn silage but you are using materials that would otherwise be lost. You'll find this subject of the "Making and Feeding of Silage" discussed in Farmers' Bulletin No. 578-F.

******

ANNOUNCEMENT: You can get that Farmers' Bulletin 578 on the "Making and Feeding of Silage" free of charge by writing to the United States Department of Agriculture or you can get it through Radio Station_____. Kindly ask for it by number. The number is Farmers' Bulletin No. 578-F.

###

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM (Region 3) Monday, February 25, 1929

NOT FOR PUBLICATION

Livestock Meeting No. 22: Tick Eradication

SPEAKING TIME: 8 Minutes.

ANNOUNCEMENT: Order in the Farm Forum! --- Here's a specialist from the U. S. Department of Agriculture. --- He's just back from making a general survey of the tick-infested sections of the southern States --- If you men will find seats and quiet down, he'll now tell us how the work of getting rid of the cattle-fever ticks is coming along ---------

******

March the Fourth is Inauguration Day. That's the day we'll start the season's active dipping campaign. That's the day we'll inaugurate the fight to free additional areas from that disease-spreading cattle tick.

The prospects are very bright for making good gains this year. That's true in nearly all the infested States.

In the section along the Atlantic coast from Virginia to Florida there is no country under quarantine for cattle ticks. The only work planned will be in the nature of check inspections. Livestock men want to make sure they haven't overlooked any ticks. With so many dense swamps and other rough sections hard to get to, there may be some ticks hiding out on us.

Last season in Florida, eight counties dipped their way out from under Federal quarantine, and this season six more counties will undertake systematic tick eradication. They expect to be ready for release by next December the first. These new counties are in the northeast corner of Florida. That will clean up all the northern part of Florida.

The only part of Florida which will then be under quarantine will be the middle peninsular part. Tentative plans call for wiping that out within the next five years. That will be a great thing for the cattle and dairy business down there.

March 4, Alabama enters the final stage of her war on the cattle tick. Alabama has just one county left under quarantine; that's Clarke County in the southwestern part of the State. The Federal and State people are building vats down there now. They will begin dipping early in March. Any cattle ticks that get that arsenic bath cease to trouble cattle in this world. It

seems certain now that Alabama will join the list of States which have freed themselves from the cattle-tick quarantine by the first of next December.

Mississippi still has 23 counties in the southern part of the State that are tick infested and in quarantine. But Mississippi is not going to play around with cattle ticks literally draining the life blood of the cattle industry down there. The Mississippi legislature has appropriated a half million dollars for a systematic tick-ridding campaign in all the infested territory this season. The State officials are confident that they will make a clean sweep of the ticks. They expect to have all their quarantine territory in condition for release by the end of this year.

Arkansas has 20 counties still in quarantine. The Arkansas authorities are now considering a plan to clean up those 20 counties in the next two years. Interest in dairying and in beef cattle is more pronounced in Arkansas now than at any time during recent years. And Arkansas farmers realize that cattle can't thrive when they're being wasted away by tick fever.

Oklahoma, you know has already been released from quarantine. Except for a few individual herds and premises, Oklahoma is tick free. They expect to finish up the work this year. They have a vigorous eradication program outlined to clean up the few remaining points of infestation. ------- (As if interrupted) ----- Beg pardon? ----- Did you have a question? --- "How long?"

This gentleman asks how long it takes to eradicate the cattle tick. A few years back, I wouldn't have answered that so flat-footedly. But we have learned more about the tick and how to get rid of it. We've improved our methods. For several years past, the Bureau of Animal Industry has recommended that the areas in which the tick eradication is to be undertaken be prepared thoroughly and then every effort be concentrated to get rid of the tick in one season.

That's the plan being followed in most sections now. It has been repeatedly demonstrated that it is practical to eradicate the cattle tick in one season. At any rate, such an intensive campaign will insure release from quarantine after a year's work; even if further work is needed in spots to make assurrance doubly sure. We don't want any back-sliding. This has been a long hard fight, but it has been a steadily winning fight.

Now, as I was saying, the plans this season in Texas call for systematic eradication in 25 or 26 quarantined counties, and a continuation of the active drive to wipe out the last tick on the few ranches still infested in the area already released from quarantine. But Texas now has 72 counties under quarantine, and the Texas Live Stock Sanitary Commission has asked the legislature to provide more money and to strengthen the law, so Texas can be soon freed from the tick pest.

Unfortunately, Louisiana is marking time in tick eradication. There is no active work in progress in Louisiana, nor is any planned this season. Last month, things had reached such a low ebb there, that the Bureau of Animal Industry seriously considered dosing its field office at Baton Rouge. Those familiar with the Louisiana conditions think the situation calls for an effective tick-eradication law and a big enough appropriation to enforce it.

However, the improvement in the cattle and dairy business which has already followed tick eradication in some sections is most encouraging. Wise self-interest will force farmers in ticky regions eventually to join the campaign to rid our Southern States of cattle fever down to the last tick. We are getting tired of feeding stock for the sole profit of the cattle fever tick.

******

ANNOUNCEMENT: Next week, at this time our Farm Forum will discuss meat grading. However, before we get to that, we are going to have several other meetings. Tomorrow, we'll take up the question of hatching turkeys, ducks, and geese. Wednesday, we'll have an expert here to talk about farm fires. Thursday, we will have a few facts about dairy prices, and Friday we'll talk business-like road building.

#####

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM Tues. Feb. 26, 1929.

NOT FOR PUBLICATION

Poultry Meeting No. 22: Hatching Turkeys, Ducks, and Geese.

Speaking Time: 8 Minutes.

ANNOUNCEMENT: The Farm Forum will be in order! -- Some of our members have been asking about how to hatch turkeys and geese. Others have brought up questions about hatching ducks. For that reason, we've asked a specialist from the U.S. Department of Agriculture to come here and tell us where hatching turkeys, and ducks and geese differs from hatching chickens ---------- He'll be glad to answer any questions any of you may have.

****

The general principles of hatching turkey eggs or duck eggs or goose eggs are the same as for hatching chicken eggs. But there are some differences in details of hatching; such as differences in length of time it takes, differences in temperature, and the like. -------(As if interrupted) --- Just a moment --------- We seem to have a question over here on the left ------ All right --- What was it? ---"Turkey hens or incubators?" ---

Oh, turkeys are hatched either way. Some folks let turkey hens hatch the eggs and brood the poults. Others hatch the eggs in an incubator and turn the poults over to turkey hens to brood. Others hatch the turkey eggs in an incubator and raise the poults in brooders.

Fact is, artificial hatching and brooding turkeys is coming into more general use every year. It is the only method used on farms where turkeys are raised in big numbers. Turkeys hatched and reared by natural methods are more likely to get diseases. That is especially the case where chicken hens are used to brood poults. Then, you know, a turkey hen will usually lay a litter of eggs and then go broody. But if that broodiness is broken up and the hen is not used as a mother, she will usually lay two or even three more litters of eggs. Turkey hens, in sitting, can cover from 15 to 18 eggs, depending on the size of the hen -------(As if interrupted) ------- Well? ---- "Temperature?" ---You mean, what should be the temperature in the incubator?

The best incubator temperature for turkey eggs is about the same or slightly lower than for hen's eggs. When the thermometer is placed so it just clears the top of the turkey eggs, the temperature

should be 101½ or 102 degrees. Then it should be gradually increased until it registers 103½ at hatching time.

Turkey eggs should be turned two or three times a day. Test them on the tenth and twentieth days, and take out all infertile eggs and eggs with dead germs. On the twenty-sixth day, you should darken the incubator door and keep the machine closed until hatching is done. Then leave the poults in the nursery trays for 24 to 36 hours after the eggs are through hatching. The period of incubation of turkey eggs is 28 days. --------(As if interrupted) --How's that? --- "How about duck eggs?"

Well, the incubation period for duck eggs is 28 days, too. That is, except the Muscovy duck. Its eggs require from 33 to 25 days. Incubators for duck eggs should be run at a temperature of 102½ degrees for the first week, then 103 from that time until the eggs are due to start hatching. At that time, they need a little higher temperature, up to 103½. Understand, those should be the temperatures as shown on thermometers set so that the bulb of the thermometer just clears the top of the eggs. On commercial duck farms only incubators built for duck eggs are used. However, if you have only a small number of duck eggs to hatch, you can use a hen egg incubator.

Turn the eggs at least two or three times a day from the third through the twenty-fifth day. Test the duck eggs two or three times during incubation. Take out the infertile eggs on the sixth or seventh day. Take out the eggs with dead germs on the fourteenth and twenty-first days. Duck eggs are cooled more generally than hen's eggs, but cooling is not so commonly done as it used to be.

After duck eggs have been incubated for ten days, it is a good idea to supply more moisture. Overheated duck eggs may be cooled quickly by sprinkling them with cold water. Close the incubator when the ducklings begin to pip the eggs and keep it closed until the hatching is over. After the eggs are through hatching, you can open the ventilators of the machine and keep the door open slightly. ---------(As if interrupted) Yes? ---- "Goose eggs?" --- "Would goose eggs be handled the same way?"

Yes, pretty much the same way, as in the case of duck eggs. Goose eggs and duck eggs need more moisture, and cooling, of course, than hens' eggs. And goose eggs take from 30 to 34 days to hatch; 30 days for the small breeds and longer for the larger ones.

Run the incubator at a temperature of 101½ to 102½, with the thermometer just clearing the top of the eggs.

In the case of goose eggs, however, it is much more common practice to hatch the eggs either with chicken hens or under a goose. They are usually set so that the goslings will be hatched about the time grass begins to turn green.

The eggs should be gathered every day and be kept under good conditions, as you may have to hold them for several days before you set the hen. If you have to hold any of them more than a week, pack

them in loose bran to help keep down evaporation.

After you break the goose of her broodiness, she will usually lay another litter of eggs the same as does the turkey. ------
(As if interrupted) Did somebody ask 'how?"

Put the goose or turkey hen in a coop with a slated bottom for two to five days. Give her water to drink but very little feed. You can let her set on her second litter. Provide good-sized coops, big boxes or barrels, for setting turkeys and geese and comfortable roomy nests for hens set on geese or turkey eggs.

Sitting hens, geese, and turkeys need regular daily attention. They should come off their nests once a day. Feed them whole or cracked grains and give them plenty of water to drink. You can keep them confined to their nests and only let them out for a half hour a day or you can let them come off when they will.

However, if you want to know about raising ducks, and geese, and turkeys, including everything we've mentioned and a lot we haven't, why don't you write for those Department of Agriculture bulletins. They are free. The one on "Goose Raising" is Farmers Bulletin No. 767. The one on "Duck Raising" is Farmers' Bulletin No. 697. And the bulletin on "Turkey Raising" is Farmers Bulletin No. 1409.

******

ANNOUNCEMENT: For all you men who want to get down those numbers, here they are:

The Bulletin on Turkey Raising is Farmers Bulletin No. 1409.
The Bulletin on Duck Raising" is Farmers' Bulletin No. 697.
The Bulletin on Goose Raising is Farmers' Bulletin No. 767.
You can get any or all of these bulletins free of charge by writing to Radio Station ___ _____ or by writing direct to the United States Department of Agriculture at Washington, D. C.

###

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

THE FARM FORUM

Wednesday, February 27, 1929.

NOT FOR PUBLICATION

Crops and Soils Meeting No. 22 Farm Fires

SPEAKING TIME: 9 Minutes.

ANNOUNCEMENT: Order in the Farm Forum! ---- Here he comes now! ---- Get to your seats men! ---- We want to hear this Farm Engineer ---- He's going to talk fire ---- farm fires ---- Get your breath, Mr. Engineer ---- We've been waiting on you ---- We'd about given you up ----------

******

Yes, I'm late getting here ---- Had to stop, to help at a fire! ---

It wasn't much use though!--- Barn set fire to sheds --- House caught from the sheds --- whole business went up in flames --- All we could do, was to get a few things out of the house ------

The buildings never should have been put that close together! --- Those sheds were almost certain to catch --- in case of a big hot fire; like that made by that barn full of hay. They were not fifty feet from the barn. Of course, they might have caught if they had been a hundred feet or more from the barn.

But if there had been a clear space of 150 to 200 feet between those main buildings, as there should have been, the others would never have caught. That's not an exceptional case, either. Crowding farm buildings is the cause of a lot of fire losses.

And if they'd only had a volunteer fire department in the neighborhood, equipped with a motor truck, they might have prevented a lot of that loss. They might have saved the house anyway.

The more I see of farm fires, the more I'm convinced farm communities should have motorized fire apparatus and a trained fire department. If we'd just had a water pressure system on that farm today, we might have saved most everything ----- but we had nothing! ----- neither ladders, nor axes, nor chemical fire extinguishers. Why, we couldn't even find enough water pails to do any good with a bucket line --- not even a pump at the well. Every farm should have barrels or tanks equipped with pumps for emergencies like that, especially where there is no water pressure.

There were quite a few people there before the fire was over, but all they could do was to watch things burn, and ask how the fire started.

It seems to have started in the barn loft. I guess it must have been another of those self-starters; another case of spontaneous ignition of the hay. You know, spontaneous ignition is the most important cause of farm fires in this country.

Lightning comes next. Defective chimneys and flues are the third most important cause. Sparks on combustible roofs are fourth. Smoking and careless use of matches is fifth. Careless use and storage of gasoline and kerosene comes sixth. Defective heating equipment is seventh. And the eighth most important cause of farm fires is faulty electric wiring and improper use of appliances.

You can see from that list of the eight most important causes of farm fires, that most of those fires could be prevented ----------(As if interrupted) What? --- "Spontaneous ignition?" ------

Oh, yes ----- That's largely preventable, too. The United States Department of Agriculture is studying those self-starting fires in hay, and grain, and feeds, and horse manure. When they get through, we'll know a lot more about the causes of those fires. As it is, we already know that alfalfa and clover hay in mows seem to give the most trouble. And we also know how we can prevent many of those self-starting fires.

Here are four things which help keep down such fires.

First, Cure your hay properly before you store it.

Second, If that is impossible, add 10 pounds of salt for each ton of hay as you put it in the barn or in the stack.

Third, Guard against leaky roofs and sides of barns. Hay which has gone through the natural sweating or curing process in the barn may heat and take fire if it gets wet afterward.

Fourth, Ventilate the hay as freely as you can as soon as you store it.

I suppose you all remember hearing about that barn near Middlesex, Vermont, that burned up while it was standing in several feet of flood water a couple of years ago. The flood water wet the hay, then as the flood went down, the wet hay got to heating until fire finally broke out even before the flood water was away from the lower part of the barn. That's unusual. But leaky roofs are not, and they need attending to.

As for fires caused by lightning. There's no question, most of them could be prevented. Properly installed, well-kept up lightning rods are practically one hundred per cent efficient in preventing lightning damage. A substantial metal roof with all parts in good electrical contact can be used as part of the lightning protection system for a building. You can protect the livestock from lightning, too, by grounding all wire fences enclosing pastures and yards at reasonable intervals.

And fires keep breaking out; farm homes keep going up in flames all over the country, because the chimneys, and heating equipment, and smoke pipes are not built right or installed and kept up properly.

Of course, you can cut down the danger of sparks on combustible roofs by not using that kind. Use good, fire-retarding roofing materials. And it shouldn't be necessary to say, Never permit any smoking in the barns or near combustible materials. And, of course, keep matches away from children.

Small quantities of gasoline and kerosene should be stored in original containers in some isolated location. If you keep large quantities, you should place them underground in a tank equipped with a pump. Yes, and the women folks as well as the men, should quit throwing a little gasoline or kerosene on a fire to start it up. That's a fine way to start more fire than you've bargained for. Never use flammable liquids for cleaning in the home. And see to it, that the electrical wiring system meets the requirements of the National Electrical Code.

Electric appliances, especially irons, should always be disconnected when not in use. Burn all waste and rags saturated with linseed or other drying oils at once or keep them in metal containers. They are self-starters too. Oil mops will do the same thing. Put them in metal containers with a tight fitting cover.

Fact is, I advise you to write the U.S. Department of Agriculture for Farmers' Bulletin No. 904, on "Fire Prevention and fire fighting on the farm." You might also ask for Farmers' Bulletin No. 1512, on "Protection of buildings and farm property from lightning."

*****

ANNOUNCEMENT: I'll repeat those bulletin numbers. You can get them free of charge either through Station or by writing direct to the United States Department of Agriculture at Washington, D.C. The one on "Fire Prevention and Fire Fighting on the Farm" is Farmers' Bulletin No. 904. and "Protection of buildings and farm property from lightning" is Farmers Bulletin No. 1512.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM Thursday, February 28, 1929.

NOT FOR PUBLICATION

Dairy Meeting No. 22: Prices for Dairy Products.

ANNOUNCEMENT: The Farm Forum will be in order! --- This is our dairy day. Today we have with us a marketing expert from the U. S. Department of Agriculture. I've asked him to tell this crowd of dairymen just what controls the prices we local producers get for our milk and cream. Can you answer that, Mr. Specialist? -------

****

That's a big order, Mr. Chairman. There are a lot of things which go toward making the price which you local producers get for your dairy product; for your milk or for your cream.

Here are a few of the most important. I'll give you five chief factors in fixing your prices.

First, there is supply and demand.

Second, there is the character of the market you are supplying. Dairymen often have several local outlets for their milk and cream. There are often several buyers competing. You may be able to sell to milk dealers, to creameries, to condenseries, to cheese factories, or to ice cream makers. Or, you may sell direct to the consumers. So you see, the prices you get may be determined to a certain extent by the character of your market. Even the same outlet may give different prices for different grades or for quicker delivery.

Third, your distance from the market naturally has an effect on the price you get. Dairymen who are closest to the consuming market have the advantage in the cost of transportation to market. Of course, an Iowa dairyman whose raw material has to pass through an Iowa creamery and be made into butter on the way to New York City, has as competitors dairymen from other sections who may be better located in the matter of transportation costs.

Then, fourth, the purpose for which the milk is sold counts. Milk sold for fluid consumption usually brings higher gross prices to producers than milk sold in any other form. I said "gross" prices, however. Gross prices and net profits, remember, are two quite different things.

And fifth, the price depends upon the season of the year. The highest prices are offered in the fall and winter when production is lowest.

Those are a few of the most important causes for the prices dairymen get. Those same influences carry right through to the consuming market. But there are other price changes between many of you and the consumers. For example, milk has to be pastuerized and bottled, or butter has to be graded into different qualities, and changed from the bulk package into individual pound and quarter-pound prints. All that represents costs and changes prices. So when you are talking about the price of milk and butter, and comparing prices you get with what somebody else gets, you want to know just at what stage of the marketing process the price applies.

But let's just take a peep into the price making machinery, and see how prices are made.

Of course, where the dairyman peddles his own, he may be governed by the competition he has, he may take into account what the milk costs to produce and deliver, or he may just arbitrarily set a price which he thinks he ought to get. If he sells to a city distributor, however, he may take just what the buyer offers or the price may be the result of conference between groups of sellers and buyers.

In the bigger milk sections, there are two types of prices. There is the so-called "basic" price; that is, the price of the milk used in fluid form. And there is the "surplus" price; that is, the price for the remainder of the milk for use in some manufactured product. In those sections, the net price which the dairyman actually gets depends upon the surplus.

In the milk country of the middle West, however, where the manufacturers of dairy products are in the market for supplies, the common basis for prices to dairymen is a butter market quotation. Butter market quotations are probably of more interest to dairymen as a whole than any other regularly quoted dairy prices ----- (<u>As if interrupted</u>) --- Beg pardon? --- What's that? --- "Why is butter used as a basis for prices?"

Well, butter prices quickly reflect changes in the supply and demand. Butter can always be made and stored. There is always a market for butter, so butter is a last resort whenever there are real surpluses of milk and cream. Butter represents the most concentrated form of the most valuable constituent of milk. ----------(<u>As if interrupted</u>) ------How's that? --- Yes, that's right ----- Butter market quotations <u>are</u> printed in most of the newspapers the country over ------(<u>As if interrupted</u>) ---- What? ----- "Why are the New York and Chicago butter markets referred to so much?"

Because, butter lends itself to shipping and storage. With quick transportation and adequate refrigerator car service, shipments may be made overnight between producing sections and markets or between different markets. So you see the markets where there is the greatest amount of

trading are the markets which have the biggest effect on prices.

Chicago and New York are the two principal butter markets east of the Rockies and San Francisco is the principal one on the Pacific Coast. In those cities, wholesale butter prices are published by commercial reporting agencies and by the U.S. Department of Agriculture.

In order to get those quotations, the Department has trained market reporters attend sessions of local Exchanges, and later canvass the dealers in the produce districts to get complete information as to the actual selling prices. The prices are reported according to the different grades and quality.

Those quotations are embodied in reports sent out to dairymen and other interested parties. The Department gets out a number of reports on dairy products. It issues a daily market report on butter, cheese, eggs and dressed poultry. It issues another daily report on milk and cream markets. Then once a week there is a review of the butter market of the past week and also a review of the cheese market. The Department experts also prepare monthly reports on cold storage holdings, fluid milk, condensed and evaporated milk and dry milk. They estimate butter production, and analyze the domestic and foreign dairy market situation as it affects American producers.

All those publications which show price trends and other price information, can be obtained free of charge upon request to the U.S. Department of Agriculture, Washington, D.C.

****

ANNOUNCEMENT: Did you get that, men? Any of you who want further price information or any of those reports can get them from the U. S. Department of Agriculture. They are yours for the asking.

###